

# Clinical Medicine and Surgery

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## \* Editorial \*

### Havelock Ellis

Philosopher of Love

THE chief trouble with humanity today seems to be that large numbers of people are unable or unwilling to grow up, psychically. Most of our mistakes are the mistakes of thoughtless, selfish, and irresponsible children. It is vastly encouraging, therefore, to contemplate one spiritually adult man, towering up amid the welter of childishness, for if *one* can attain to those heights, others are given hope of their ability to do so, in some degree at least.

On February 2, 1859, at Croydon, England, while Captain Edward P. Ellis was sailing the China Sea on one of his almost continuous voyages, his wife, Susannah Mary Wheatley (also of a seafaring family), gave birth to a son and named him Henry Havelock. His father did not see him until he was nearly a year old.

Brought up almost entirely by his remarkable mother (whom he resembled in many respects), his early environment, in addition to her, consisted chiefly of his two younger sisters and of books and pictures—sound books; great books; curious nutriment for the mind of a child—but Henry was an extraordinary child!

In his seventh and eighth years, his father took him for a voyage around the world, on a full-rigged ship of which he was captain, and on that voyage the soul of the boy was born into its functioning and his real life began. One of the outstanding incidents was a visit to Australia, where later the second stage of his spiritual parturition was to be consummated.

From his tenth to his twentieth year, he was steeped in French literature and art and began to show forth in large measure the enormously catholic and almost passionate curiosity and genius for classification which characterized his whole life work. Before he was fifteen he was regularly writing long, critical reviews of the books he read, and penetrating discussions of the pictures he saw in the art galleries. About this time, too, he began to write verse.

He was a large-framed, handsome, shy, physically maladroit, and almost overpoweringly thoughtful boy.

When he was sixteen, his father took him on another voyage, but this time he stayed behind in Sydney when the Captain sailed away and began the career of a teacher, first in a small suburban school, then as tutor in the family of a well-to-do farmer at Carcoar, 170 miles out in the Australian bush, and later at several other places.

This phase of Ellis' life lasted for four years and his whole aftercourse was laid out between sixteen and twenty. He read voraciously, discriminatingly, and without inhibitions or taboos, and he thought in the same manner. The problems of sex, which perturb all adolescents, were a serious matter to him and, failing to find any light on the subject in his reading (except Dr. George Drysdale's now-forgotten "Elements of Social Science," the discovery of which was a landmark in his life), he resolved to devote his career to digging out the truth, theretofore, buried under a mountain of

prudery and ecclesiasticism, regarding the turbulent urges which upset so many lives, and giving it to the world.

During these years he was writing, developing his skill and power as a poet, and going through all sorts of mental and emotional upheavals, including the experience of religious conversion.

In 1879 he returned to England and his family and plunged into a veritable maelstrom of literary, studious, and pedagogic activity. As always, he read enormously during the next decade; taught school, to earn money for entering upon the medical studies, which he recognized as necessary to his life purpose; wrote many articles and his two first books ("The New Spirit" and "The Criminal"), which were published in 1890; and came in contact with James Hinton's manuscripts on moral and metaphysical subjects, which deeply colored his thinking.

Ellis spent little time in the actual practice of medicine, as he lacked the endowments of a successful clinician, but his medical training broadened and deepened his power and field of study and observation and was indispensable to his later work.

From 1890 onward, the tide of his literary labors swept forward. A bibliography of his publications fills twenty pages—articles, reviews, essays, books. He also edited several series of literary and scientific works. His labors were as those of Hercules; his erudition was astounding.

The writings of Ellis fall into two classes (and few people know them both), the first of which consists of scientific treatises on biology, psychology, and other more or less medical subjects, especially the physical and psychic basis for the manifestation of the sex urge in all its varieties. In this field, "Man and Woman" (1894) was the first; and his voluminous and unique "Studies in the Psychology of Sex," the seven volumes of which appeared over a period of a number of years, will be a monument to his genius, industry, and human insight for generations. These works and others are generally known to physicians, and to few laymen.

The other side of his literary life and output consists of delightful, thought-stimulating essays on ethics, esthetics, sociology, history, art, and the humanities in general, as well as worthy poetry, which has been unwarrantably neglected. This aspect of his life is typically illustrated in "Little Essays of Love and Virtue," "The Dance of Life," "Affirmations" and "Impressions and Comments," and no man who aspires to true culture can afford to be unfamiliar with these brave and inspiring productions of "the most civilized Englishman of our time."

Although he was not a recluse, Ellis was always shy, retiring, and self-sufficient, though his human contacts made profound impressions on those who shared them, and sometimes on himself. He was always the researcher, the dreamer, the mystic, the seer, the man who "took the leer out of love's language"—"the Philosopher of Love."

An excellent, first-hand idea of the personality of this remarkable man is given, in her "Autobiography," by Margaret Sanger, who met him and became his pupil, and almost his worshipper, during her period of exile in England, while she was under indictment for violation of our outrageous "Obscenity Law," in the early period of the World War. Houston Peterson's biography of him is also a thrilling document.

It is doubtful if even future generations will ever be able to form an adequate idea of the debt humanity owes and will owe to Havelock Ellis. Endowed with the rare and clarifying power of viewing life in all its phases as an intensely interested bystander, and with that deep inner courage which shy men sometimes possess, he projected his remarkable mind and heart into many of the problems of mankind, whose discussion has brought abuse and disgrace to many in the past, and let in such a flood of light that no thinking man can read his writings and be just the same thereafter.

Though in failing health during this, his eighty-first year, Ellis continued his prolific writing (always in longhand) until his immeasurably valuable life came to a close on July 8, 1939.

The world has rather regularly stoned its prophets, and Ellis was the target for many of the missiles of ignorance and prurient bigotry, but his majestic head was unbowed and he lived to see himself recognized as the messiah of the new age of esthetic and enlightened humanitarianism and the most enduring ornament of English letters.



A fool is honored in his own house; a proprietor is honored in his own village; a king is honored in his own country; a learned man is honored everywhere.—Sanskrit Proverb.



## Be Your Own Referee

WHENEVER you go to a ball game, or any other athletic contest, you will see in action a man whose business it is to make close decisions, and to make them with lightning swiftness. They call him an umpire or a referee. Sometimes he may be wrong; but if that happens in more than a negligible percentage of cases he is apt to be hunting another job rather promptly.

The ability of these men to see accurately and swiftly and to decide promptly, is the result of long training which has crystallized into *habit*. There is nothing supernatural about it. Anyone who has the real *desire* to cultivate these faculties, and the patience and pertinacity to *keep up the training*, day after day and year after year, can acquire them; and they are abundantly *worth acquiring* by all of us, for they are as valuable in everyday life as they are in games.

No day passes which fails to offer, to everyone beyond early childhood, scores or hundreds of occasions for *making decisions*, large or small, and the ability to grasp the important features of a situation quickly and make up one's mind without a moment of unnecessary hesitation, is one of the large factors in success in any undertaking. Those

who doubt and quibble and hesitate and vacillate, are apt to miss all of the trains that would take them to desirable places.

First, one must *know one's game*—whatever it is—in all its particulars and details; second, one must *train one's eyes* and ears and all the other senses, so that they will register, swiftly and unerringly, all impressions made upon them; and third, one must *train one's will and develop one's self-confidence* to the point where uncertainty and dawdling become repugnant, by *habit*.

The physician who *habitually* hesitates to make even a tentative diagnosis the first time he sees a patient, for fear he may be wrong, has little skill as a diagnostician and such meager confidence in his powers that he is utterly unable to inspire confidence in others, and his patients will soon seek a medical adviser who *knows what he is doing*, and thereby makes *them* know it, too.

This does not mean that large decisions, which may affect one's whole life, should be made on the spur of the moment, but it does mean that one can approach even the crises of life with a determination to learn all necessary facts and conditions as rapidly as possible, weigh and balance them objectively, come to a considered judgment without fumbling, and then *stick to it*. Remember what happened to Lot's wife when she looked back, and do not make yourself a medium for adjusting the mineral balance of the cattle!

If you have been one of those unfortunates who waste half an hour every morning in deciding whether to wear a straw hat or a felt hat or no hat at all, or who get up three or four times to see if they locked the front door, *snap out of it NOW!* Begin, *today*, to practice making the innumerable little decisions of daily life as if you were umpiring a ball game, and *stick to them*, as the umpire would, even if you have a sneaking suspicion—or even the certainty—that you were wrong. If you get into trouble now and then, *keep on*, and presently you will learn to *concentrate your entire attention* on what you are doing at the moment, and your errors will then dwindle to the vanishing point—or practically so—and you will grow in your own esteem and in that of your associates.

When fifty-one percent of the citizens of this country have learned to be their own referees, Utopia will be "just around the corner."



Success is *action*—a *journey*, not a destination.—ADMIRAL WAT T. CLUVERIUS, U.S.N.



## Diversification

THERE is an old saw (and the old ones are apt to be sound and reliable, or they would have died young) about the inadvisability of keeping all one's eggs in one basket. Moreover, during the past few years, there has been a lot of talk about the advantages of diversification of farm crops, in order that the fellows who feed the nation (when people in high places don't order the pigs killed and the crops plowed under, so that the farmers

in the Argentine, or wherever, will have to feed us) can, in a pinch, feed themselves and their families.

Canny gardeners put these precepts into practice by arranging their plantings of shrubs, bulbs, and other flowering perennials in such a way that something will be blooming from April until frost, instead of having a spilt of beauty for two or three weeks, and nothing but green (lovely as that is) the rest of the summer.

It is rather astonishing to find how few people arrange their lives according to these sound and time-tried principles, and physicians, as a class, are among the least provident in this regard, when they ought, not merely to be taking this type of thought for themselves, but also to be preparing to advise their patients as to the importance, and the details, of diversification in a life.

The people who actually and sincerely look back upon childhood and youth as the happiest times in their lives, have certainly been neglected by their parents in regard to one of the most necessary parts of preparation for a satisfying life.

Few people except psychiatrists (and by no means all of them) ever discover what a shocking number of adults *do not know how to read*. Not that they are illiterate, in the ordinary sense in which that word is used, but that their reading, in both quantity and variety, and especially reading aloud to others, has been so limited that they do not read easily, rapidly, and joyously, and have little idea where to find the sort of book that they sometimes, in a vague way, feel that they might like to read, if it were readily available.

Other hobbies, too, are more or less stereotyped, and those who do not have the desire or the ability to play golf or bridge are distressingly liable to find any spare time which may be available hanging heavy on their hands. This condition, as a matter of fact, is what ails an astonishing number of the middle-aged and elderly patients who consult medical men in regard to a long list of vague symptoms, for which no adequate organic cause can be found. When physicians wake up to this fact, ask the proper questions to make the diagnosis, and learn how to prescribe for these badly neglected folks, they will open up a practically untilled, and highly remunerative, field of practice.

Every human life should be so planned that, at every decade, from childhood (which takes care of itself, if parents do not interfere too much) to patriarchal old age, it would have a series of joy-giving activities waiting to come into bloom, as it were, at the proper time.

To explain how this can be done would require a large book; and, in fact, several such books have been written, but not enough of them. However, the wise ones, if they have not already done so, can find enough suggestions in Marjorie Greenbie's "Arts of Leisure," Donald Laird's "More Zest for Life," and Richard Cabot's "What Men Live By," to make a good start, and when they have found

out how to do it, they, themselves, can write a book about it.

Let not things, because they are common, enjoy, for that reason, the less share of our consideration.—PLINY THE ELDER.

## Doctors of Health

IT is reasonably certain, even to a confirmed optimist, that the medical profession has not the respect and admiration of the people and the prestige and power which it enjoyed a generation or two ago. This is not because doctors are growing worse, because the very opposite of that condition is true—there never was a time when the proportion of able and intelligent physicians was so high—but because the enlightenment of the people and their increasing demand for competent service have progressed faster than has the application of new medical knowledge to the needs of the individual and the community.

If we are ever to win back the high place our profession held in the public esteem during the nineteenth century, we must make some fundamental changes in our viewpoints, select a different line of progress and goal of endeavor, and then accelerate our pace in traveling the new pathway we have chosen.

A rough map, at least, of our new road to achievement, helpfulness, success, and honor seems now to be available, if we have the wit to discern

it, and its main features appear to be *health conservation* and *preventive medicine*.

From time immemorial, we Doctors of Medicine have been looked upon as, and have almost entirely been, *healers* of men. But that chiefly important part of the world, which consists of the men and women who dwell upon its surface, has been changing with astonishing celerity during the past few decades—much faster, in fact, than we,

with our ponderous and hoary traditions, precedents, codes, and taboos, seem to have been able to change.

It was well enough, once, if we were able to extricate a man from the predicaments into which he had been led by his heredity, environment, and the results of his own ignorance or willfulness; but now people are saying, with increasing insistence, "We want doctors who are clever enough, not merely to *rescue* us from illnesses, but to *keep us from falling into them*, by instructing us in proper ways of living and by watching over our bodies so that abnormalities may be detected in their very beginnings, before serious harm has been done, and corrected by intelligent advice and information."

We are all Doctors of Medicine or Dentistry, and some of us are Doctors of

Public Health; but the new type of physicians, which will control the situation fifty years (or less) hence, will, we believe, be doctors of *individual* and *personal health*—educators of the people; conservers of vitality; promoters of longevity; enrichers of human life.

### NEXT MONTH

Dr. Henry R. Harrower, of Glendale, Calif., will discuss, in a pleasing and enlightening manner, with ample documentation, the relative merits of natural and synthetic hormone preparations.

Dr. Edwin A. Nixon, of Seattle, Wash., will consider the indications for and technic of ligation of the internal saphenous vein, in connection with the injection treatment of varicose veins.

Dr. R. L. Gorrell, of Clarion, Ia., will present the rationale and technic of the use of local anesthetics in treating precordial pain.

### COMING SOON

"Smallpox Toxin in Tuberculosis," by W. L. Frazier, M.D., Sheppranch, Calif.

"Hazards in the Use of 'Reducing Cures'," by Marvin J. Blaess, M.D., Detroit, Mich.

## SEPTEMBER

Morning chill  
Warns of coming frost.  
The goldenrod is ablaze  
And purple asters deck tangled fields.  
At evening a golden haze  
Dims beauty embossed  
On the hill.

G. B. L.

## ★ *Leading Articles* ★

### **The Treatment of Old Age As an Entity\***

(Remarks on Reactivation)

By

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THE problem of management in senility is usually that of evaluating and treating individual and isolated symptoms and diseases differently in an old person than in a young person. This constitutes the principal object of the science of geriatrics.

But since the advent of endocrinology, the aging process has become the object of treatment as an entity, aside from the care of its individual manifestations. The first attempts in this direction were called "rejuvenation," an expression that is clinically unjustified and, biologically, only partially logical. The more correct and more logical designation is "reactivation."

While, therefore, geriatrics deals with the diseases of old age, reactivation is mainly concerned with old age as such. Reactivation, however, in order to be scientific and effective, must be combined with geriatrics; that is, symptomatic and causal treatments must go hand in hand. In addition, the mode of living of the aging individual must be investigated and so adjusted as to produce the least possible amount of wear and tear, which is undoubtedly an important cause of biologic (as distinguished from mere chronologic) old age.

It is through the endocrine system, and especially through the gonads, that the attempt is made to reactivate the aging organism. However, this should not imply the sole responsibility of the endocrines for senescence and senility, the final causes of which are still obscure. Their mystery is the mystery of life. The endocrine glands age together with the rest of the organism, but by their inherited qualities they determine the manner in which age manifests itself in any particular individual.

Old age is a period of life, just as is childhood. We can hasten maturity by endocrine treatment of the child. By injections of sufficiently large doses of the male hormone or the gonadotropic hormone of the pituitary, we could even produce a precocious maturity. In a similar way we can retard the process of aging by endocrine methods.

Stating the matter from a different point of view we can say: Reactivation consists of two methods: one specific and direct, and the other non-specific and indirect. Endocrine treatment, aimed, as it is, directly at an underlying cause, constitutes the specific method; while treatment of a co-existing disease or accompanying symptoms (whether typical

of old age or not), together with advice as to proper living, constitutes the non-specific method.

The non-specific and indirect method of treatment is part and parcel of orthodox medicine and will not be discussed here beyond assigning to it its logical place in reactivation. Present remarks will be confined to the specific and direct (endocrine) treatment of old age, on which "orthodox medicine" has so often frowned. But any sincere student will see, if he gives the problem sufficient clinical study, that orthodoxy is neither always right, nor always fair, nor always well-informed.

The endocrine treatment of old age used to concern itself almost exclusively with the gonads, and that accounts for the word "rejuvenation" having become practically synonymous with treatment of sexual impotence. This situation has changed, as our knowledge of other glands, especially the pituitary, has increased, together with the potency and reliability of our preparations. In this way "*sex-rejuvenation*" has become transformed into the more respectable "*reactivation*."

The gonads, however, still play a prominent rôle in our treatment and often are the center of attack. Gonadal treatment in reactivation is accomplished either by substitution or by stimulation therapy. Usually a combination of both has been found the most effective method to exert a rather lasting tonic effect on the aging organism and extend the plateau of efficiency.

#### **Stimulation (Steinach) Treatment**

The *stimulation* treatment can justly be called "Steinach Therapy," as Prof. Steinach<sup>1</sup>, of the University of Vienna, was the first to utilize and treat the patient's own gonads in order to increase their functioning and to bring about a general revitalization.

For men, the classic procedure is vasoligation, the operation that bears Steinach's name. In spite of great similarity, it is not identical with the well-known sterilization operation, usually called vasectomy and familiar to all informed physicians. For the purpose of sterilization, it is merely necessary to interrupt the continuity of the vas on both sides. But in order to produce a "Steinach effect" (meaning, by that, the reactivating impulse), a permanent occlusion of the vas and a sealing up of one or both testes should be accomplished. Only thus is a back-pressure into the testicle produced, with its functional endocrine sequences—the proliferation of the hormone-producing interstitial cells. Scar formation, after merely cutting the vas or

\*Read before the Marin County Medical Society, California, August 25, 1938.



ligating it with cat-gut, may or may not produce a permanent seal, and that accounts for the fact that a sterilization operation (vasectomy) sometimes has and sometimes has not an endocrine effect, aside from the mechanical one. Therefore the technic of choice, for the purpose of reactivation, is ligation with a non-absorbable material, such as silk, and the crushing of the vas so as to prevent its reopening.

If sterilization is desirable at the same time, bilateral ligation must naturally be performed. Otherwise the unilateral operation is sufficient, although the biologic effect may develop somewhat more slowly. If both testes are normal, the larger one should be selected. If they are both alike, the right one may be preferable, on account of the frequent incidence of varicocele on the left side.

According to the publications of various investigators, <sup>2 to 8</sup> beneficial results have been observed in from 70 to 80 percent of their cases. These results consisted, briefly, of heightened vitality, reenergization, and invigoration, physical, mental, and sexual. My own statistics of over 300 cases, observed for from one to twelve years, indicated 77 percent benefited<sup>8</sup>. There is, of course, no question as to any actual rejuvenation, and the limitations of the method should be emphasized even more than the possibilities. Steinach himself expressed it very conservatively when he said, "Within modest limits, the process of aging can be retarded."<sup>1</sup>

In the course of a period that is now nearly 20 years, many enthusiastic reports have appeared in the international medical literature on the reactivating results of vasoligation. Sarcastic criticisms also have appeared, in which the writers sought to disprove the good results or to ascribe them to autosuggestion<sup>9</sup>. But why autosuggestion should have produced the results in men, while naturally not in animals, was never quite explained, and these reactivating results in rats, guinea pigs, dogs, and even horses have been so frequently reported and confirmed that they can hardly be doubted.

The divergence of opinion that still persists in many quarters regarding the Steinach operation can be explained partly by over-expectation of doctors and patients, and consequent disappointment; partly also by puritanical and emotional factors. Sex was involved. That was enough to cause some to develop inhibitions and prejudices. Impotence was often the principal reason for the operation. In other cases the technic was at fault and gave different results in different hands. It must be emphasized how necessary it is to avoid too much trauma, in order to preserve circulation and possible trophic influences on the testis. Then again, unsuitable cases were selected for the operation by inexperienced investigators. Finally, patients were often observed for too short a time. The result of the operation was judged after a lapse of 2 or 3 months only, when it should have been rechecked after a year or more.

As to the reason for which aging men undergo this operation, in about half of all cases sexual factors were found to be determining. For the other half, other causes were more important, and ranged from the desire to retain vitality or to improve memory, working ability, or physical and mental energy, to the ambition for a better game of bridge or golf.

Subjective improvements, including restoration of potency, have often been overemphasized, and

naturally do not carry the same conviction as objective changes, although the fact of their frequent occurrence should not be underestimated. The objective changes, as reported in the literature quoted, deal with improved sight and hearing, reduced hypertension, and improved circulation. There is definite evidence that the physiologic testis hormone, the secretion of which increases after vasoligation, acts on the capillaries, and that is the mechanism by which the organism is influenced.<sup>10</sup> Further reports claim a cure of prostatism, relief of arthritic tendencies, a changed basal metabolic rate, an improved blood count, and new hair growth.<sup>11</sup>

I have dwelt, perhaps unduly long, on the results of vasoligation, but it was the first method of its kind and the results have the longest period of observation. There are a number of other operative procedures based on the Steinach principle of influencing the person's own glands and changing their histologic structure and function. Incisions into the albuginea of the testes was one. Decapsulation was another. X-Ray exposures fall into the same category. An improved circulation in the testes, with subsequent improved function, has been claimed by Doppler<sup>12</sup> for his method of painting the spermatic artery with a phenol solution. This paralyzes the sympathetic nerve structure of the artery, thereby enlarging its caliber. The use of diathermy or short waves to the testes, and also to the ovaries, has the same underlying principle and constitutes a method of direct gonadal stimulation.

### Substitution Therapy

Indirect gonadal stimulation may result from the second method, *substitution therapy*.

Leo Stanley<sup>13</sup>, of San Rafael, California, has done more extensive and more effective work along this line than has been done anywhere else in the world. His method of testicular implantation, by injecting the mechanically prepared matrix of ram's testes, is well known. The extent of Stanley's clinical material and his careful observations permit no doubt as to his endocrine results, at least not in the mind of any objective reviewer.

Similar results with similar methods were reported by Hunt,<sup>14</sup> who, as early as 15 years ago, forcefully rejected the attitude of orthodox medicine toward glandular operations. He said:

"Those advocating operative gland procedures have been outrageously calumniated and have been called short and ugly names—names intolerable and mean. These defamatory invectives and bitter amplifications have usually emanated from men in our profession as destitute of sincerity as they are improvident of knowledge."

The transplantation of testes and ovaries, either in toto or in slices, has been much publicized, especially by Voronoff, in Paris. He used human material or took the glands from anthropoid apes. Its principal field of application would be the treatment of castration symptoms. A lasting effect and "taking" of the graft is, however, only probable after proper blood-grouping between donor and recipient. The same precautions should be taken as before blood transfusions, which, after all, are nothing but transplantations of liquid tissue. No matter how effective a transplantation of human or ape testicle may be, it remains rather an impractical and expensive procedure. The innumerable "monkey gland" jokes, often falsely

connected with Steinach's work, have not contributed to any wide scientific acceptance of the method.

Another form of substitution therapy for men is the injection of male hormone solutions, of which synthetic products have recently been put on the market. I am referring to Oreton and Perandren, which are both, chemically, the propionic acid-ester of testosterone. Before the biochemists had succeeded in determining the chemical structure of the male hormone (or better, the *one* male hormone that controls secondary sex characters) and evolving the synthetic product from cholesterol bases, an impure male hormone solution had been extracted from the urine of young men and also from testicular tissue. These preparations are assayed by the same laboratory methods and have the same effect on comb growth in capons and on the seminal vesicles of immature rats. Their clinical effectiveness is still in dispute. My own experience is wider and my results have, so far, been more favorable with products from a natural source than with the synthetic ones<sup>15</sup>, but further observations are necessary to arrive at more reliable conclusions. At present, the many contradictory reports of animal experimentations becloud the issue for the clinician, and only too often create an almost hopeless confusion.

Animal experiments may have their scientific value *per se*, but they assume practical value only when they explain clinical observations or when the results in human beings coincide with those in animals.

For actual nonoperative reactivation treatments in men, the combination of substitution and stimulation therapy is preferable to one of them alone. For the purpose of stimulation, short-wave treatments to the testes are used for about 10 minutes daily, or every other day. Only a slight amount of heat should be felt by the patient. Wherever indicated, a corresponding treatment is applicable to other glands.

Before leaving the problem of reactivation as applied to men, I would like to report, briefly, the latest development that has come from Steinach's laboratory<sup>10, 16</sup>: It consists of the injection of the male hormone, with a small addition of the female hormone, mixed together in the same ampule. Steinach found that this addition of the female hormone increased the effectiveness, in animal experimentation, as much as 40 times, measured by the development of the seminal vesicles, and also produced more distinct clinical results, especially in regard to blood pressure and the central nervous system. Steinach's animal experiments seem to indicate that the favorable effect of the female hormone on capillary circulation (which may be a pharmacologic effect) paves the way for the male hormone to exert its endocrinologic influence; or the conversion of part of the male hormone into female hormone, which takes place after injection, may become less, and more male hormone may become active as such. The amount of female hormone that is added to the male hormone is approximately 300 International Units per injection; 15 to 20 such injections are given, about 3 to 4 times weekly.

A special form of stimulation treatment, although not applied directly to the sex glands, is the use of the *gonadotropic hormone of the pituitary*. This hormone should be used, in addition to the male hormone, especially wherever a pituitary

deficiency is suspected by reason of the patient's symptoms, constitutional markings, or laboratory findings; for instance, the specific dynamic food action. The gonadotropic hormone is non-specific; it acts on testes and ovaries alike, but is inactive in their absence. Thus a gonadotropic preparation of the pituitary would be indicated in the treatment of women *who are still menstruating*, but would no longer be effective after the completed menopause. This illustrates the need of individualization in reactivation treatments, in women as well as in men. The problem is not one of rejuvenation by sex gland treatment, but of reactivation by treatment of glandular deficiencies.

### Reactivation in Women

The same combination of substitution and stimulation therapy used in men, is applicable in the problem of female reactivation. The principal gonadal product used in women, and the one from which I have seen the best results, is the follicular hormone, Prodynon B, which I have found can be given up to 10,000 International Units, twice weekly, without any danger of suppressing a normal pituitary function. Such suppression is desirable wherever pituitary hyperfunction produces the well-known vasomotor symptoms of the menopause. A higher dose must then often be administered, although uterine bleeding may thus be produced through the direct influence of the follicular hormone on the endometrium. To avoid this unpleasant and, for the patients, often frightening symptom, rather high doses of the synthetic male hormone (25 mg., 2 or 3 times weekly) can be injected, with similar beneficial results.

In addition to the gonadal hormones (the follicular hormone and progesterone), the thyroid, the pituitary, and the adrenal cortex play a rather large part in reactivating the aging female organism. The combination to be used depends upon the endocrine diagnosis. Substitution and stimulation therapy are applied in a similar manner to that described for the non-operative treatment in men. To go into further details, space would hardly permit, and besides, I should like to conclude with a few remarks made last year in London,<sup>17</sup> England, before the Sex Education Society. These remarks, it is hoped, will serve to link together and clarify the understanding of the various factors here discussed; endocrinology in its general scope, so-called proper living, the wear and tear of life, and reactivation. Lichtwitz, of New York, has emphasized these points effectively in his lectures and in his book, "Pathologie der Funktionen und Regulationen"<sup>18</sup>.

Endocrine glands are not only dependent upon each other in their functions, and upon chemical as well as psychic influences, but they have, so to say, a "superior officer," in the form of a regulating center in the brain. This is the *diencephalon*, our primitive brain, the seat of our "vegetative personality." It is the region of the hypothalamus, whence the sympathetic as well as the parasympathetic system is controlled. This center has existed and ruled in our early animal ancestors long before the cortex of the brain had assumed its dominant position, as the seat of our "intellectual personality." Damage to the diencephalon can result in more or less serious disturbances of endocrine functions, because the regulating mechanism is affected and the stimulating or inhibiting nerve impulses, going to the pituitary, are not emitted as

they should be. Such centrally caused endocrine disturbances are seen after infections or injuries of the brain, and apparent changes in personality, suddenly appearing obesity, changes suggesting a reversal of sex, or certain forms of diabetes may occasionally result—conditions always most resistant to treatment.

While cerebral infections and injuries may acutely and suddenly disturb the gland-regulating mechanism of the diencephalon, the strain of living, if exceptional for a given person, may do the same thing chronically, gradually, and insidiously. The result is then a neurosis, with varied and more or less obscure endocrine manifestations.

The question readily comes to one's mind: How far is the diencephalon responsible for the process of aging, through its influence over the endocrine system? Good clinical results from short-wave treatments to the pituitary may be partly due to their effect on this cerebral center, but the indirect method of treatment in reactivation may give even greater help. If we succeed in temporarily removing, in our aging patients, the excessive strain of modern living, we give them at least a partial escape from the harsher realities of life.

Almost everyone has, at times, wished to "get away from it all"; to become an "escapist." Almost everyone has, at times, wish-dreamed of life on a lonely island, in a monastery, on a mountain retreat, or a farm. Such wishes may be due to a reaction in our primitive brain, protesting against life in the machine age—a primitive brain not accustomed to the psychic unrest that goes with depressions, financial worries, strikes, fears of war, dictatorships, and all the feelings of inferiority and insecurity typical of our present-day civilization. These contemplations show how medicine today is linked with many other fields—with sociology, politics, philosophy, religion, etc.

Wish-dreams of escape are logical reactions, but for practical purposes their only realization can come in the form of vacations, with a complete change of surroundings and activities. Such a change, of prolonged duration, may be very helpful, in addition to endocrine treatments.

Psychotherapy also has its field in such instances. The symptoms of wear and tear are chiefly expressed in fatigue, depression, and feelings of insufficiency. They often increase with advancing years, when the natural decline has set in and the wear and tear has taken its toll of glandular efficiency. Then reactivation may ease the burden and restore, not only the ability to work, but also to enjoy life more fully.

It is certain that good results from reactivation treatments are not purely psychologic, but only a fool will deny the tremendous part that psychology plays in medicine. Suggestion, however, may work both ways. If faith in a treatment could bring

about its apparent success without any actual glandular changes, as some antagonists claim, then lack of or destruction of confidence in a treatment may counteract the improvements that have actually taken place, and the final result may be spoiled.

Physicians who have open-mindedly interested themselves in the problem of treating old age as an entity, and who have applied the suggestions I have here made, or similar endocrine methods, will agree with the following conclusions:

Rejuvenation and any considerable prolongation of the individual span of life is still a medical Utopia; but reactivation with invigoration is a definite possibility. In discussing the endocrine attempts toward rejuvenation, Alexis Carrel recently said: "The importance of human life depends on its quality, not on its length."

### References

- 1.—Steinach, Eugen: "Verjuengung." Berlin: 1920. J. Springer. Steinach, Eugen: Biological Methods Against the Process of Old Age. *Med. J. & Rec.*, Jan. 19 and Feb. 2, 1927. Steinach, Eugen: Zur Geschichte des Maennlichen Sexualhormons und seiner Wirkungen am Saeugtier und beim Menschen. *Wien. Kl. Wchnschr.*, Heft 6, 7, 1936.
- 2.—Schmidt, Peter: "The Conquest of Old Age." Dutton, New York, 1931.
- 3.—Hörner, E.: Ueber das Problem der Steinachschen Vasoligatur und ihre Erfolge in den ersten 10 Jahren. *Med. Klinik*, 1931, No. 30.
- 4.—Sand, K.: Vasoligature Employed Ad Mod. Steinach, with a View of Restitution in Cases of Senium and Other States. *Acta Chir. Scandinav.*, 55, 387, 1922.
- 5.—Wollbarst, A. L.: Report on the Steinach Operation in Senility and Premature Senility. *N. Y. M. J. & Rec.*, May 3, 1922.
- 6.—Uspensky: "Rejuvenation in Russia." Edition (Medicine) Leningrad 38. Prospect Volodarsky, 1924.
- 7.—Niehaus, P.: Prostata Hypertrophie und Steinach Ligatur. *Praxis*, 1935, No. 10.
- 8.—Benjamin, H.: Steinach Operation. *Med. J. & Rec.*, Oct. 21, Nov. 4 and 18, 1925. Benjamin, H.: Steinach Therapy Against Old Age. *Amer. Med.*, Dec., 1932.
- 9.—Fishbein, Morris: Miscellaneous books and articles for the laity.
- 10.—Steinach, E.; Peczenik, O.; and Kun, H.: Ueber Hormonale Hyperaemisierung, insbesondere ueber den Einfluss der Maennlichen Sexual-Hormone und ihrer Combination mit Weibl. Hormon auf erhoehten Blutdruck und Hypertonus. *Wien. Kl. Wchnschr.*, Heft 3, 4, 5, 1938.
- 11.—Benjamin, H.: Changes in Hair Following Vasoligation. *N. Y. St. J. of M.*, July, 1928.
- 12.—Doppler, K.: Ueber den Effect der Chemischen Sympatius—Ausschaltung der Hodenarterien. *Wien. Kl. Wchnschr.*, 50, 1025.
- 13.—Stanley, L.: Testicular Substance Implantation. *Calif. & West. Med.*, Dec., 1931.
- 14.—Hunt, H. L.: Further Experiences in Gland Transplantation. *A. J. Clin. Med.*, Dec., 1923.
- 15.—Benjamin, H.: The Male Hormone. *M. J. & Rec.*, June 14, 1930. Benjamin, H.: The Male Hormone. *Am. Med.*, April, 1935.
- 16.—Kun, H., and Peczenik, O.: Die biologische Wirksamkeit der Maennlichen Sexual-Hormone verstaerkt durch Follikelhormon. *Wien. Kl. Wchnschr.*, No. 13, 1937.
- 17.—Benjamin, H.: "Rejuvenation." Sex. Ed. Society, London, 1937.
- 18.—Lichtwitz, L.: "Pathologie der Functionen und Regulationen." Leiden, 1936.

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### BAD MONEY

Many good people ascribe the world's evils to the badness of men, but wiser folk are now ascribing it to the badness of money. The nation which first recognizes bad money as the basic cause of its economic troubles will have no need for a dictator within its boundaries nor need fear aggression or interference from without . . . . The whole world is being taken in by tricks that should not deceive an intelligent school boy.—FREDERICK SODDY, M.A. (Oxon), LL.D., F.R.S., Nobel Prize 1921.



# Notes from the A. M. A. Meeting

Reported by

GEORGE B. LAKE, M.D., Waukegan, Ill.

THE ninetyeth annual Scientific Assembly of the American Medical Association was held in St. Louis, Mo. (chiefly in the Municipal Auditorium, but partly in a couple of hotels), in May, 1939,



Courtesy of Mead Johnson & Co.

"Bayberry," by Dr. F. C. Hyde, East Dennis, Mass. (A charming, small still-life in oils. The background was a soft, delicate green).

and was a big gathering, the attending physicians (not including their families and friends) numbering 7,348.

The usual meetings of the specialistic societies preceded the main show and ran partly concurrently with it. The usual luncheons, dinners, golf games, and other accessory attractions were run off in due course; and the weather was, mostly, delightful.

Two features were unusual: The first, which bids fair to become a regular adjunct of these meetings, was the second annual exhibit of the American Physicians Art Association; and the second, which probably will not be repeated until we meet in St. Louis again, was *free Budweiser*, served without question to all registered physicians at the bar in the lunch room in the Auditorium.

The physician-artists' show filled three galleries in the city Museum of Art, which is so distant and inaccessible (unless one has a car) that too few saw it, but those who did were well repaid for a rather tiresome trip, as the art work of the doctors compared favorably with that of professionals which one sees in the galleries, as evidenced by the three small halftones which accompany this article, even though they lack the color values. All medical men who paint, sculpt, etch, draw, snap cameras, pot, bind books, carve wood, hammer metal, or otherwise express their esthetic urges in tangible forms, should join the Association and get in on these shows. The membership dues have recently been reduced. Write to Dr. Francis H. Redewill, Flood Bldg., San Francisco, Calif., for complete particulars.

At this meeting, Dr. Rock Sleyster, of Wauwatosa, Wis., whose portrait and biographic sketch appeared in the August issue of this Journal, was

installed as president of the Association, and Dr. Nathan B. Van Etten, of New York, was chosen as president-elect. In 1940, the meeting will be held in New York City; in 1941, in Cleveland; and in 1942, in Atlantic City, where the auditorium is big enough to house the whole show easily.

## Scientific Exhibit

The Scientific Exhibit was cramped for space, more or less inconveniently arranged, and therefore hard to study adequately.



Courtesy of Mead Johnson & Co.

"Prometheus," by Dr. Homer Whellon, Seattle, Wash. (This was a large, symbolic canvas—about 3x4 feet or so—in oils. The background was a flaming sunset—crimson and gold and turquoise—which was reflected on the towering cliffs at the sides).

In Group I (original research), the gold medal was awarded to Dr. George W. Thorn and his associates, of Johns Hopkins University, for studies of a synthetic adrenal cortex substance (desoxycorticosterone); the silver medal to Drs. George P. Robb and Israel Steinberg, of New York, for a method of visualizing the chambers of the heart, the pulmonary circulation, and the great blood vessels in man; and the bronze medal to Drs. J. F. Fulton and Margaret A. Kennard, of Yale University, and Carlyle F. Jacobson, of Washington University, St. Louis, for an exhibit illustrating the functions of the frontal lobes of the brain.

In Group II (excellence of presentation), the gold medal went to Dr. Elmer L. DeGowin and his associates, of the State University of Iowa, for an ingenious method of preserving blood for transfusion, by drawing the blood directly from the vein into cold solutions (5° C.) and immediately



Courtesy of Mead Johnson & Co.

"Praha, 1938," by Dr. A. L. Wolbarst, New York City. (An exquisite little statue in bronze).

refrigerating it. Preserved blood, at this low temperature, was given to patients intravenously, by gravity, without preliminary warming, and produced no ill effects, as it assumed the temperature of the room during its slow passage through the connecting tube. A preliminary report of this procedure appears in *Proc. Soc. Exper. Biol. and Med.*, 40, 126, 1939.

The silver medal was given to Dr. Philip Lewin, of Northwestern University, Chicago, for a large and elaborate exhibit, illustrating the anatomy, pathology, diagnosis, and treatment of backache. Almost any active clinician could profitably have spent several hours in studying this exhibit carefully.

The bronze medal was bestowed upon Dr. Morris Moore, of the Barnard Free Skin and Cancer Hospital, St. Louis, for a showing of the mycotic infections of man.

Dr. Edward R. Janjigian, of Danville, Pa., showed (but did not demonstrate, as the apparatus was not then available commercially) the development and practical use of an entirely new method of calculating the *basal metabolic rate*, which he has devised.

After long study, it was found that five factors, which can readily be ascertained by any physician who makes careful physical examinations (age; blood pressure, systolic and diastolic; pulse rate; respiratory rate; and weight), are positively and unalterably correlated, mathematically, with the basal metabolism. The complex mathematical processes involved are embodied in a special slide rule, so simple that a high school student can use it, if given the proper factors. This apparatus, known as a "Basometer," is scarcely more expensive than a good sphygmomanometer, and is equally portable, so that there is now no excuse for the general practitioner who fails to test the metabolism of all of his patients for whom such a test is indicated.

Drs. W. Wayne Babcock and Daniel J. Preston, of Philadelphia, showed, in detail, the use of lamp-chimney and sump drains, with continuous suction (see Fig. 1, and CLIN. MED. & SURG., January, 1939, page 26). Every physician who does abdominal surgery should have seen this highly practical exhibit.

Dr. Conrad J. Baumgartner, of Los Angeles,

exhibited a highly interesting collection of palpating models (moulages) of neck lesions, intended to be used as a substitute for or supplement to clinical material, accompanying lectures on these lesions—a decidedly valuable teaching aid.

The thesis of Drs. Alton Ochsner and Michael E. DeBakey, of Tulane University, New Orleans, is that vasospasm is a definite factor in thrombophlebitis, as a vasomotor impulse originating in the thrombosed segment affects the entire extremity. Interruption of these impulses breaks this reflex and relieves the pain and swelling of thrombophlebitis. Procaine hydrochloride solution is injected into the sympathetic chain. A point two finger-breadths lateral to a spinous process is chosen for the insertion of a long, thin spinal needle, which is passed down to the transverse vertebral process. The needle is manipulated past the process and inserted two finger-breadths deeper. Procaine solution injected at this point will affect the sympathetic chain. *Relief is often dramatic; the process resolves in days instead of months.*

They showed illustrations of their clinical and experimental observations and demonstrated the technic of giving the injections.

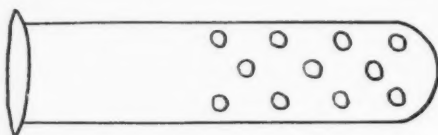


Fig. 1: Showing the general principle of the sump drain, made of glass, in various sizes, and perforated so that wound secretions can drain into it and be removed by continuous suction.

Dr. Bernhard Steinberg, of Toledo, O., showed, in his exhibit, that *general peritonitis* is divided into three stages: The primary stage, in which the various defenses, cellular and humoral, are capable of mobilization; the second stage, one of bacterial multiplication and toxin production, in which the defense mechanism is inhibited (the treatment of this stage is indicated); and the third stage, one of irrevocable damage and approaching death.

A new vaccine has proved effective in stimulating the defense mechanism. This vaccine (known as "Coli-bactragen") is a suspension of *Escherichia coli*, killed by long exposure to a low concentration of formaldehyde, in a gum tragacanth gel, and is injected into the peritoneal cavity. A rapid mobilization of leukocytes, especially polymorphonuclears, follows. These cells, which appear grossly as a creamy exudate, take up all organisms nonspecifically, and thus are effective against the usual intestinal contaminants. It provides protection which begins within three hours after administration, and lasts for 3 days.

Probably the most spectacular exhibit in this section was that of Drs. Temple Fay and Lawrence W. Smith, of Temple University, Philadelphia, in which they demonstrated the temperature factors in the growth of cancer and embryonal cells, showed a bedside unit used in the refrigeration treatment of cancer (which was, of course, played up by the newspapers and sensational weeklies as "freezing the patient"), with the

various instruments devised for local treatments of various parts of the body, and ran moving pictures of patients lying in beds of crushed ice, in a state of suspended animation, with a temperature of 90° F. and practically no sign of life except the beating of their hearts.

This treatment is still highly experimental, but so far, seems to be harmless and gives some promise of usefulness.



Fig. 2: The Offner Direct-recording Electrocardiograph.

Correlated with the Scientific Exhibit was a demonstration of a new *projecting apparatus for enlarging x-ray films*, demonstrated by the National Tuberculosis Association.

The new projector, built to the order of the Association, makes it possible to exhibit original x-ray films to a large audience with the same detail as is enjoyed by only a few when films are shown in a viewing box. It serves a very useful purpose for conventions, medical society meetings, and medical schools.

The feature of the apparatus is the huge objective lens, which has a speed of F 4.8 and a focal length of 40 inches. It is one of the most expensive lenses ever built by the Leitz organization.

A 2,000-watt lamp is necessary for full illumination. The object field is about 16 inches square, which makes it possible to project the usual 14 by 17 film in its entirety. Magnification ranges from 8 to 13 diameters at a distance of from 20 to 35 feet from the screen.

There were, no doubt, many other worthwhile and important showings, but one man can cover only a certain and limited amount of territory in a given time, and those here reported seemed to me to possess the most general interest and practical, clinical value.

#### The Commercial Exhibit

The firms displaying their wares in the Commercial Exhibit numbered 253, and it was a really great and instructive show, worth the time of any active physician to study it for a couple of days or so, if there were no other features at the meeting. Here men who were thoroughly posted in their particular lines were eager to explain them to all comers, and the man who was thirsty for instruction could pick up a large and varied assortment of up-to-date information, to say nothing of a small library of literature.

Although practically all of the booths were worth studying, relatively few were showing genuinely new products of importance to a large section of the medical profession, and even of these only a few of the most striking could be reported adequately by one who was trying to cover both of the exhibits and the scientific sessions.

Probably the most revolutionary showing was the *Offner direct-writing electrocardiograph* (see Fig. 2), exhibited by the Herz-Lasker Corporation.

This remarkable instrument eliminates all the troublesome and time-consuming technics of photography, which are necessary in using the ordinary electrocardiograph, and makes *instantly* available to the physician, in his office or at the patient's bedside (for the apparatus, which weighs only 34 pounds, is readily portable), an accurate record of the electrical reactions of the patient's heart, comparing entirely favorably with the records made by a conventional instrument of the optical type.

The mechanism of this apparatus utilizes the Piezo-electric effect of the distortion of crystals to transform the immensely amplified heart potentials into the mechanical motion which actuates the pen.

This new electrocardiograph is no more expensive than a reliable machine of the optical type, and the elimination of the photographic processes reduces the operating cost about 75 percent.

Next, perhaps, in newness and general importance, was the "Maicophone," a small, wearable hearing aid using the *vacuum-tube* principle instead of carbon granules in the microphone and operated by a standard 1½ volt flashlight battery costing five or ten cents. The midget vacuum tubes permit considerably more flexibility of individual adjustment of the instrument and greater clarity of reproduction of sounds. The complete apparatus is little, if at all, larger than similar devices of the carbon-granule type, and only slightly more expensive.

Among a number of relatively small new things (some of which may prove to be more important than they appear at present) were an arrangement for training young children to control their bowels, known as "Toidey," which seems to be the most practical thing of the kind I have seen; the Davy metal surgical buttons, for holding the ends of retention sutures firmly and comfortably, without tying them across the wound; the new "Zytor" skin and retention sutures made from Nylon, which are non-capillary, uniform, chemically inert, and cause a minimum of foreign-body reaction; and Bauer and Blacks' new adhesive tape, "Formula 87," which causes a minimum of contact dermatitis and has other valuable properties.

Here follow abstracts of a few of the more practical clinical papers presented at this session, which seem, as I have gone over them, to be practically a symposium on gastro-enterology, especially peptic ulcer.

#### OXYGEN IN PNEUMONIA

By M. A. Blankenhorn, M.D., St. Louis, Mo.

The only indication for the use of oxygen in the treatment of pneumonia is *cyanosis*, which must be carefully evaluated to determine the true need for oxygen, which depends on the degree of *anoxemia*. In cases where many lobes are involved or there is considerable moisture in the bronchial tree, oxygen is frequently life-saving.

It is of little use if consolidation has proceeded

too far; if there is damage to the *respiratory center*; or in cases of circulatory failure; and it is certainly not a substitute for specifics (serums and, possibly, sulfapyridine).

The technic of administering oxygen satisfactorily is not easy, and it must be used carefully and intelligently, under the direct and constant supervision of a *physician*, who checks all factors frequently. Such treatment can not safely be left in the hands of a nurse.

Tents are the most expensive and troublesome method of giving oxygen, but *also the best*. The gas should be supplied in *large cylinders*, and must be *cool*, free from carbon dioxide, and given in concentrations of from 35 to 60 percent.

For delirious patients (and sometimes for others), catheters passed through the nose are the best method of administration, but they must be in the *right place* and must be *fixed*, to prevent wiggling.

In order to prevent drying and irritation of the mucosa in the neighborhood of the distal end of the catheter, the gas may be moistened or the tip moved from time to time. It is also helpful to spray the oropharynx with oil and to grease the catheter.

In the beginning of oxygen treatment, the gas should be given at the rate of 10 liters a minute until the cyanosis is definitely improving. After that the quantity may be reduced to from 5 to 8 liters a minute, and continued as long as any trace of cyanosis is present.

#### PITUITARY PREPARATIONS IN PEPTIC ULCER

By Drs. M. H. Metz, R. W. Lackey, P. E. Wigby, A. B. Small, and C. O. Patterson, Dallas, Tex.

In several cases of peptic (duodenal) ulcer, mild symptoms resembling those of diabetes insipidus were observed. This suggested a relationship between the two conditions and this, in conjunction with the known effects of posterior pituitary extracts on the vagus system, led us to try pituitary preparations in the treatment of peptic ulcers.

Animal experiments showed that hypophysectomy produces definite effects on gastric secretion, activity, and circulation, and that Pituitrin, applied intranasally, is absorbed slowly and improves the circulation in the stomach by antagonizing the effects of acetylcholine.

At first we used a solution of posterior pituitary, given hypodermically in doses of 40 mg. three times a day; but the unpleasant side-effects were so marked that we abandoned this method, and are now using powdered whole posterior pituitary by mouth or (even better) by intranasal insufflation, the dose being  $\frac{3}{4}$  grain (42 mg.) twice or oftener a day, as indicated.

We have now treated 76 patients (all but 2 of whom were males) with peptic ulcer, confirmed by x-ray studies, for three years or more, by this method alone. Of these, 67 (88+ percent) were definitely improved, the symptoms being relieved in from one to ten days, along with gains in weight, strength, and appetite. Comparable results were not produced by Pituitrin, Pitocin, or Pitressin. All of these patients were ambulatory and on a regular diet, minus the most indigestible foods.

Among these patients were 34 who showed little or no roentgenologic evidence of scarring, and of these, 18 percent suffered recurrences within 3 years. On the other hand, among the remaining

patients, who showed extensive scars but no symptoms, recurrences occurred within 3 years in 42 percent. All of the patients who had recurrences took another course of treatment, and were again relieved.

While we believe that treatment with powdered posterior pituitary has shown its value in cases of peptic ulcer, we do not feel that exclusive reliance should be placed upon it in simple cases. We used this method alone simply to give it an honest test, but probably the results would have been better if we had used alkalies and dietary restrictions, in addition to the pituitary powder, though this demonstrated its ability to quiet contractions and diminish secretion by *inhibiting the vagus*.

All of our cases were *severe* ones, and the recurrence rate was not higher than that seen in patients who are on a strict Sippy regime—in fact, not so high.

#### SUBCLINICAL AMEBIASIS

By Drs. Frank H. Cornell and Harry T. French, Hanover, N. H.

Wherever routine examinations of the stools, for intestinal parasites, are made on large numbers of people, from 5 to 10 percent of them are found to harbor *Endameba histolytica*. No part of the country is exempt from this rule. The presence of these parasites seems to depend more on *how* one lives than on *where* one lives. All physicians should study the conditions in their own localities, and be on the alert to detect these organisms in *all* cases of obscure and chronic illness, whether or not the gastro-intestinal tract is the seat of the symptoms or not. The laboratory demonstration of *E. histolytica* is difficult and requires expertness on the part of the examiner.

At Dartmouth College, during the past five years, 3,500 men, coming from all over the United States, have had their stools examined for intestinal parasites, and amebas were found in 3 percent of them, although less than 10 percent of the infested ones had consulted a physician for the treatment of intestinal disorders, in spite of the well known fact that these parasites can live only at the expense of their host.

All of the infested individuals, whether they considered themselves ill or not, were treated with two hypodermic injections of  $\frac{1}{2}$  grain (32 mg.) of emetine hydrochloride, and one oral dose of Carbarsone,  $\frac{1}{4}$  grain (16 mg.), daily for five days, and the course of treatment was repeated after a rest of one week. No other treatment was given. Careful and repeated examinations have failed to reveal a single relapse. The stools of 20 of these men have been consistently negative for amebas or cysts for more than three years.

Perhaps the most unexpected result in this series has been the regularity with which the subclinical cases (those who did not consider themselves ill) have experienced a marked improvement in their general health and efficiency following the treatment. This leads us to believe that the expression, "healthy ameba carriers," is a misnomer.

#### DISCUSSIONS

By James L. Borland, B.S., M.D., F.A.C.P., Jacksonville, Fla.

The fact that people who harbor amebas may not feel at all ill, does not prove that their infestation is mild and harmless. It is quite possible (in fact, has happened in a number of instances) that ulcer-

ation, and even perforation, may occur without the patient having been conscious of any previous symptoms.

By A. L. Levine, M.D., New Orleans, La.

In my experience, Carbarsone cannot be depended upon to destroy amebic cysts. I prefer to use Stovarsol or Anayodin or large doses (1.0 to 1.5 Gm.) of bismuth subnitrate.

By George B. Lake, M.D., Waukegan, Ill.

Every active clinician frequently sees cases of obscure "belly consciousness," in which there has never been any diarrhea. In such cases, look for amebas; but even if they cannot be demonstrated (remember that the laboratory procedures are difficult and none too certain), the *therapeutic test* may be of value.

In such cases, especially if the patient is at all sensitive to arsenicals, I have given Vioform, 40 grains (2.65 Gm.) a day, in four 10-grain doses, for ten days, with pleasing results. If a *clinical* relapse occurs, the course of treatment may be repeated, and generally gives relief of the symptoms.

Such a procedure may not be highly "scientific," but in my opinion it is sound *clinical medicine*.

### BACKACHE DURING PREGNANCY

By Edmund Lissack, B.Sc., M.D., Concordia, Mo.

Backache during pregnancy sometimes gives rise to great distress. The term includes a variety of pains, aches, and sensory disturbances, the cause of which may be *suspected* after a careful history, but can be detected only after a complete examination of the entire body.

Usually the cause of the backache may be found to originate in the back itself. Often, however, it may be due to disease in other organs of the body. Primarily the cause may be infectious or metabolic; it may follow from muscular or ligamentous strain; it may result from trauma of the bones or soft tissues; and it may be due to anomalies of the spine itself.

More specifically, backache may be due to relaxation of the pelvic joints; sacro-iliac strain; faulty posture; lumbo-sacral strain; anatomic anomalies of the spine which produce undue susceptibility to mechanical strain; fatigue; diseases of the bowel, such as appendicitis; a large number of infectious diseases, especially smallpox and typhoid; diseases of the spine, such as tuberculosis; and diseases of the urinary tract, including those of the ureter.

The symptoms resulting from the softening and relaxation of the pelvic joints resemble those of arthritis: Pain referred to the joints involved, usually worse when beginning to move after sitting or lying; tiring easily, with a general sense of weakness; a sensation of snapping on movement of the bones when walking, or even an inability to walk normally.

The symptoms of an acute sacro-iliac strain come on suddenly. There is a sharp, stabbing pain, as if something had been broken while the patient was lifting or stooping. The pain localizes immediately over one or both of the sacro-iliac ligaments.

Faulty posture alone may be responsible for many troublesome backaches during pregnancy. Acquired flat feet, with strained and relaxed ligaments; inward curvature of the knees; an exceedingly large and pendulous abdomen; a slouch re-

sulting from poor muscle development; or any condition which alters the normal curve of the spine, so that the body weight is constantly transmitted in a faulty manner, are causes of faulty posture.

Fatigue is a frequent cause of pain in the lumbar region during pregnancy.

The management includes the employment of a well-fitting maternity corset; rest; application of heat; massage; and the wearing of proper shoes.

### ANXIETY STATES

By William J. Kerr, M.D., F.A.C.P., et al,  
San Francisco, Calif.

The most frequent causes of anxiety states are finance and romance, and the commonest physiologic manifestations of them are hyperadrenalism, the hyperventilation syndrome, and spasticity of the bowel. Since one-third of all the patients seen by general practitioners suffer more or less from these conditions, the subject should be of wide and practical interest. As most of such patients are neglected by their family doctors, they "shop around," and eventually fall into the hands of the cultists who *do things* for their "customers."

Though the complete relief of these patients often requires the cooperation of a psychiatrist, the family physician, if he has the proper *internal* equipment, can and should do a great deal for them, and can frequently handle the case alone.

Although these patients must have a careful and complete physical examination, it must be remembered that the factors in pathologic anxiety are chiefly psychic and social, of an objective or subjective character, and the symptoms are largely subjective. A *complete and detailed* history must be taken by a physician who has a deep understanding of and sympathy for these unfortunates.

Most of the symptoms are caused by a spilling over of impulses from the overactive central nervous system into the sympathetic and parasympathetic nervous systems, and the basic *drug* treatment consists of *central nervous sedation*, while the underlying causes are being studied. But such symptomatic treatment is of little permanent value unless the underlying psychic and social causes are discovered, their physiologic actions *explained* to the patient, and psychotherapeutic treatment instituted.

In the early treatment, cortical sedation can be obtained with bromides, barbiturates, or chloral hydrate, given *carefully*, through the day, in three doses. For spasm of sphincter muscles, drugs that relax smooth muscle may be used. For hypermotility and hypersecretion of the digestive tract, especially the colon, drugs that inhibit the parasympathetic system, such as atropine and Trasentin, are generally effective. For the respiratory alkalosis which results in hyperventilation and thus causes most of the symptoms in these cases, ammonium chloride may be given to cause metabolic acidosis, or rebreathing or carbon dioxide, in concentrations up to 5 or 7 percent, may be used.

### MAGNESIUM TRISILICATE IN PEPTIC ULCER

By Manfred Kraemer, M.D., Newark, N. J.

Magnesium trisilicate (the meerschau used in pipes) is insoluble, but it will neutralize 45 percent and adsorb 10 percent of any acid, *slowly*. With time it will take up practically *all* hydrochloric acid.



Mutch, in 1936, suggested the use of this substance, in its hydrated form, in the treatment of peptic ulcer, because it is an antacid which will not produce alkalosis nor the constipation which tends to follow the administration of aluminum hydrate or calcium carbonate.

I have used this drug in treating more than 100 cases of peptic ulcer, 13 of which occurred in women. The average duration of these cases was 9 years. Four (4) patients had had severe hemorrhages and 2 had suffered perforations. Most of them were recurrent cases.

The patients were put to bed, on a more or less strict ulcer diet, and in place of the alkalis previously employed, were given from 0.5 to 1.0 Gm. or more of hydrated magnesium trisilicate 6 times a day, and in the night if necessary. As much as 200 grains (13 Gm.) a day has been taken, without noticeable effects on the bowels, the appetite, or the carbon dioxide-combining power of the blood. These patients were also instructed to avoid fatigue and to adjust any disturbing psychic situations in their lives.

In all but 17 of these cases the results were satisfactory. Of these 17, five (5) suffered recurrences and 2 obtained better relief from other alkalis. Occasional loose stools were promptly corrected by reducing the dose.

Since 86 percent of peptic ulcer patients do well on medical treatment, it behooves us to continue our search for the ideal antacid. Magnesium trisilicate probably is not that ideal, and it certainly is not a "cure" for peptic ulcer, but it seems to be a definite forward step in that direction.

### BENIGN STRICTURES OF THE ESOPHAGUS

By Porter P. Vinson, B.S., M.A., M.D., Sc.D.,  
F.A.C.P., Richmond, Va.

Cardiospasm and malignant strictures of the esophagus are more common than the benign lesions, and great care must be used in making the diagnosis.

The commonest cause of benign stricture is the swallowing of caustics, such as lye. It may be due to diaphragmatic hernia. In 21 percent of cases the cause is not discovered.

Whatever the cause of a benign stricture of the esophagus may be, dilation of the stricture will give complete and permanent relief from dysphagia, if treatment is continued long enough.

Every patient with benign esophageal stricture should swallow a silk thread immediately upon the discovery of the condition, and permit it to remain in place, in order to admit fluids, help in the passage of sounds, and prevent the development of complete organic stenosis. All these stricture cases should be treated as benign until they are proved to be malignant.

In cases due to burns, the dilation treatment should be started within from six to eight weeks after the injury, and should be continued for two years. No further treatment will be needed in most cases. Gastrostomy, with its mortality rate of 10 percent, is rarely required; but it is sometimes advisable to perform this operation, so that the thread may be drawn out and held taut while passing dilators. In no case, however, should we think of performing an operation of any kind while the patient is in a dehydrated condition. Restore his fluids first.

### TREATMENT OF PEPTIC ULCER

By Drs. Clarence F. G. Brown, Chicago, and  
R. E. Dolkart, Boston.

Ulcers may be: (1) Chemical; (2) neurogenic; (3) infectious (from foci); or (4) nutritional (deficiency conditions). Until the exact cause of gastroduodenal ulceration is more clear, we must treat the cause which seems to be chiefly operative in the individual patient. At present, these cases must be considered as chronic and subject to lifelong management, like those of diabetes.

In most cases, the chief causes are fatigue and worry; then follow infections of the respiratory and gastro-intestinal tract; and careless eating.

The *Sippy treatment* is not now much used, in its typical form, but with more or less modification. We do not try to neutralize the acid in the stomach completely, since renal calculi are apt to occur after long use of alkalis. The present idea is to individualize the treatment. We must study (1) the patient; (2) the stomach or bowel; and (3) the ulcer.

Colloidal aluminum hydroxide has the advantage that it does not cause alkalosis, and it works better than the alkalis, but it is not perfect.

Gastric mucin (of which purified preparations are now available which are easier to take than the earlier specimens), in four daily doses of from 1 to 2 Gm. each, along with frequent feedings, seems to reduce recurrences. The vegetable mucins act about the same, and keep the bowels regular (mineral oil should not be used).

We have not had impressive results with histidin, vaccines, nor foreign proteins.\*

The first essentials in treating these cases are intelligent psychic management, rest, and frequent feedings; and then medicine to stabilize the rhythm of peristalsis, reduce pylorospasm, and soothe the mucosa. We must remember that the ulcer requires at least six weeks to heal, and must educate the patient to be at ease in his environment.

### DISCUSSIONS

By Chester M. Jones, M.D., Boston, Mass.

In these cases we must first treat the acute condition, for which many methods are satisfactory, if well planned. We may even use several methods, remembering, however, that the simplest is the best.

The next aim is to prevent recurrences, but no treatment will do this with certainty. Control, rather than cure, is our aim, for peptic ulcer is a chronic, incurable disease, with which the patient can learn to live in comfort (most of the time) by management with (1) frequent feedings of simple foods; (2) freedom from stress and fatigue; and (3) medicines—chiefly atropine, in tolerance doses, especially when under stress.

By William H. Olmsted, M.D., St. Louis, Mo.

In feeding the peptic ulcer patient, we must avoid: overloading the stomach (give small, frequent meals); excess of alcohol and coffee; highly seasoned foods and sauces; seedy and skinny foods and all coarse roughage; soda-fountain drinks; heavy gravies; and all greasy foods. (He said nothing about tobacco.—G.B.L.)

307 Washington St.

\*A number of other workers in this field have a different story to tell.—Ed.

# Dilute Hydrochloric Acid in Acute Infections

By

T. H. MADAY, M.D., Chicago, Ill.

FOR the past five years, Dr. Burr Ferguson, of Birmingham, Alabama, has been an ardent advocate of dilute hydrochloric acid for intravenous injections of 10 cc. or more, daily or every other day, in strengths varying from 1:1500 to 1:200, depending on the severity of infections encountered. He has also advocated its use as wet dressings, in a strength of 1:250, in direct contact with pyogenic infections of all sorts.

Spurred on by his reports, I decided to give these solutions a thorough clinical trial, and their use has been attended by success in various pyogenic infections that have come to my attention in private practice. My reports to this effect were published in *CLINICAL MEDICINE AND SURGERY* in January, 1937 (page 40) and June, 1938 (page 265).

Since beginning the use of these preparations, about three years ago, I have never seen an antiseptic solution that was more reliable for use as an all-around medication. Whether intravenously, in a strength of 1:500, in 10 cc. doses, to stimulate a leukocytic response in the living blood stream in bacteremic and systemic infections, or as wet dressings for local use in pyogenic infections, it gave uniformly successful results, and works best when general and local treatment are combined.

Even chemically pure hydrochloric acid, in 5- or 10-drop doses in a glass of water, sipped through a straw every 3 hours, combined with milk and cream mixtures as adjuncts, gave uniformly better results than the usual Sippy powders in cases of gastric or duodenal ulcers.

Here are some case history reports from my private practice, showing results of the use of hydrochloric acid, 1:250, used locally as wet dressings:

**Case 1:** A lawyer, male, white, age 67; height, 6 feet 2 inches; weight, 190 pounds.

Twelve years ago he was operated upon for a cauda equina tumor. Subsequently, he developed paresis of the lower extremities and bladder, and areas of anesthesia below the pubic region. His bowels moved with difficulty, so he became addicted to the self-use of enemas, in a sitting position.

Two months before I saw him, he developed an induration in the perineum and showed a daily septic temperature curve. Upon examination, it was determined that an abscess had developed in the region mentioned. Hot, wet dressings were advised, to localize the process, in order to effect drainage. Because of the anesthetic areas and nursing carelessness, two large burns developed over both buttocks. The septic temperature became more constant, and pus burrowed into both sides of the scrotum and into both inguinal regions, making the whole appear like the effects of a urinary extravasation. Careful rectal examinations revealed that the original source was an **ischio-rectal abscess**.

Hot dressings were used continuously to hasten

localization over the regions involved, with daily 10 cc. intravenous injections of hydrochloric acid, 1:500. In three days a wide incision was made into the perineum and through the scrotum; also two wide incisions over the inguinal regions. At least a gallon of *B. Coli* pus was evacuated.

All of the wounds were thoroughly irrigated with hydrochloric acid, 1:250, and wet dressings were used in the wounds as drains, being changed



Fig. 1.—Photograph made a few days after sloughing took place, to show the extent of the lesion.

as necessary. Meanwhile, the burns of the buttocks had sloughed, and were dressed with the same solution (see Fig. 1).

In less than ten days, all wounds had ceased draining, remained odorless, and were clean as well as granulating. Healing was complete in six weeks. Nothing but wet hydrochloric acid 1:250 dressings were used throughout, along with 1:500 hydrochloric acid intravenously, daily, and later every other day. The only other medication was Saraka, for the bowels, one teaspoonful daily.

**Case 2:** A white boy, 2 years old, burned on both hands by accidentally dipping them in boiling water, was brought in about four days after the accident, with infected bullae and blebs on the fingers.

Dead skin was excised, the wounds washed with soap and water, and 1:250 hydrochloric acid dressings applied, to be kept moist with the solution and changed every other day. The infectious material, upon redressing, did not cling to the wounds but remained in the dressings. Complete non-scarred healing took place in ten days.

**Case 3: Impetigo Contagiosa:** A white lad of 12 years came in with characteristic golden-yellow surface crusts on the face, neck, and forearms, present for about two weeks. The crusts were carefully removed, after impregnation with hydrogen peroxide, raw surfaces were washed with soap and water, and hydrochloric acid, 1:250, wet dressings were applied to the arms and neck. A special face mask of gauze was constructed, and hydro-

chloric acid, 1:250, used on this. Injections of 1:500 hydrochloric acid solution, 10 cc. were given. All dressings were kept moist with the same solution, and renewed every third day. All infectious material remained on the gauze. Complete cure was obtained in one week.

**Case 4: Infected varicose ulcer** of the left leg: A white woman, age 47 years, height, 5 feet, 4 inches; weight, 180 pounds, presented very large varicose veins from the ankle to the knee of the left leg. On the medial side of the tibia, in the middle third, was an infected, foul-smelling varicose ulcer, about the size of a silver dollar, dressed with zinc oxide ointment, cotton, and a rag.

The ointment was removed with carbon tetrachloride; the leg and ulcer washed with soap and water, cleansed with hydrogen peroxide, and debrided; painted with tincture of Merthiolate; a pad, made of about ten thicknesses of gauze, strapped over the ulcer with adhesive; a vein leading to the ulcer injected with 3 cc. of Moru-Quin A; and a three-inch Ace elastic roller bandage was bound snugly from the ankle to knee, over all. The gauze pad was saturated, through and through, in place, with 1:250 hydrochloric acid solution, with advice that it be kept moist with the same solution. Dressings every third day showed the same results as in all other infections. A clean, granulating surface was secured in six days. Other veins were injected from below, every sixth day, with complete cure in eight weeks.

**Case 5: Carbuncle of the neck**, non diabetic: A white police officer, age 42 years; height, 5 feet, 10 inches; weight, 190 pounds, presented a large, indurated carbuncle on the back of his neck. Ten (10) cc. of 1:500 hydrochloric acid solution were injected intravenously, and hot, wet packs advised. Next day, pus was exuding from about twenty or more openings, and there was some relief from pain.

Under ethyl chloride general anesthesia, the mass was opened wide and debrided; irrigated with 1:250 hydrochloric acid solution; and a large, wet dressing of the same solution was applied, to be kept moist. An injection of 10 cc. of hydrochloric acid solution, 1:500 was given intravenously. The wound was dressed daily, with the same results as before—pus was seen only on the dressings and never in the wound. Complete cure resulted in twenty-one days.

**Case 6: Acute otitis media:** A white boy, 3 years old, following a cold in the nose, developed fever and much pain in the left ear. Examination revealed a mottled, angry-red, and bulging membrane, which was incised and the canal was flushed with peroxide of hydrogen and water. Pus and blood were fairly abundant. Drops of 1:500 hydrochloric acid solution were prescribed (5 drops, three or more times daily, to be used in the ear as necessary, after the type of irrigation just described). Metaphedrin solution was used in the nose, as drops, three times daily, to facilitate drainage and to assist the eustachian tube to clear. Complete healing of the tympanic membrane occurred in two weeks.

**Case 7: Acute follicular tonsillitis:** A white man, age 22 years, taken with typical pains in the joints, weakness, fever, and later, sore throat, showed upon examination, a pair of large, inflamed

tonsils, with typical infected, white follicular spots. Ten (10) cc. of hydrochloric acid solution, 1:500 were given intravenously; the tonsils were painted with guaiacol, 50 percent in glycerin; Aspirin (acetosal), 5 grains (0.325 Gm.), was given every three hours; and a 1:500 solution of hydrochloric acid was used as a local spray.

Next day the throat was not sore; the tonsils had shrunk somewhat; there was no fever or malaise; and no follicles were present. Complete cure was obtained in forty-eight hours, but a local spray of hydrochloric acid solution, three times daily or oftener, was continued for a week, as a precaution.

**Case 8: Recurrent furuncles:** A white woman of 33 years, non-diabetic, complained of a series of furuncles which began after an arm-pit shaving. These were poulticed and healed without medical attention. But since then (about three months), she has had at least one large furuncle a week, in a different location.

Upon consulting me, she had a large furuncle on the left forearm, which I incised and drained, and applied wet dressings of 1:250 solution of hydrochloric acid solution. I also gave her 10 cc., intravenously, of a 1:500 solution, every forty-eight hours, or at least three times weekly. Ten of these injections were given, and there was no more recurrence of furuncles. I advised her to take a series of ten injections every three months for one year, to which she readily agreed, if it would keep her clear of the annoyance.

**Case 9: Infected laceration** of the left leg: A white boy, age 9 years, while riding a bicycle, overturned and caught his leg in the chain sprocket, causing a laceration of the leg just below the left popliteal region. In debridement, considerable skin was lost, but the muscles remained intact. An infection developed in three days, which was carefully cleansed with hydrogen peroxide and soap, and a 1:250 solution of hydrochloric acid was used as a wet dressing. Dressing every other day showed the pus remaining on the gauze, and the wound clean and granulating. Healing occurred in twenty days, but skin grafting of an area about the size of a silver dollar was necessary. Scarring was very slight and complete function is intact today.

**Case 10: Infected knife wound** of the right arm in the biceps region: Participating in fight in a local strike, a young printer, age 26 years, received a vicious wound of the right biceps region. The muscles were sutured, after the wound was debrided, and a drain inserted. As expected, it became infected. Daily irrigations and dressings with hydrochloric acid solution, 1:250, resulted in perfect healing in less than twenty-eight days.

Wherever these dressings of dilute hydrochloric acid were used, it was striking that the pus was always clinging to the gauze, leaving the wound quite clean. Local immunity was stimulated by the solution in a much shorter time than is usual; there was less pus than with other types of solutions or antiseptics; less pain was experienced locally; useful function was established sooner; a quicker discharge was secured for the patient; and, above all, it was far less expensive and time-consuming.

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## Photochemical Therapy and Histamine Therapy

By

FRANK THOMAS WOODBURY, B.A., M.D., New York City  
Colonel, United States Army, retired.

THE relation of pigmentation, vitamin D production, and sunburn to the photochemical effects of a restricted band of radiation in the ultra-violet section of the spectrum, is now fairly clear, but there is a wide range of more or less well defined, systemic, physiologic reactions connected with sunburn and pigmentation, but not with vitamin D production, whose cause or causes remain obscure. There has been no link between the photochemical cause in the skin and the physiologic systemic effects noted, such as vitamin D affords.

The searching labors of Lewis<sup>1</sup>, however, as corroborated by Krogh,<sup>2</sup> upon the physiology of the skin capillaries, placed the solution in our grasp, though strangely enough it does not seem to have been recognized and I believe that this is the first occasion to do so.

Lewis has shown that any stimulus to the skin, sufficient to injure cells, whether it be mechanical, thermal, chemical, electrical, or electromagnetic (radiant), produces what he calls the *triple response*. This response is always the same in kind, though it may vary in degree.

The triple response consists of: (1) A marked dilatation of the capillaries and venules in the irritated area, which accounts for the blush and rise of temperature above that of the surrounding skin, called the *red reaction*; (2) the appearance, in the red reaction area, of a *wheel* which tends to spread irregularly beyond the limits of the red reaction, and is caused by edema due to the increased permeability of the capillaries to plasma; and (3) the *red flare*, which is a more diffuse reddening, extending well beyond the margins of the red reaction and the wheel, due to active dilatation of the strong arterioles.

Of the various chemical substances known to cause this triple response, *histamine* alone is normal to the tissues of the body and, what is still more pertinent, the injury producing the triple response liberates histamine.<sup>3</sup> Sunburn is a triple response and we identify its cause as histamine produced by the photoelectric action of radiation (lying between about  $\lambda = 313 \text{ m}\mu$  and  $\lambda = 290 \text{ m}\mu$  in the solar spectrum, and an additional band between  $\lambda = 290 \text{ m}\mu$  and  $\lambda = 250 \text{ m}\mu$ , found in carbon arc spectra) upon histidine in the cells of the epidermis. This it does without any subjective sensation on the part of the individual at the time of irradiation.

The same effects, but more profound, are to be observed from injury of the skin by intense photo-thermal exposures to radiations greater than  $\lambda = 500 \text{ m}\mu$ . The sequelae of a sunburn are different in kind and degree from a radiant heat burn, in so far as the skin is concerned, but resemble each other remarkably as concerns systemic reactions. A severe universal sunburn and an extensive radiant heat burn both give the same systemic symptoms. *These symptoms are identical with histamine shock.*

For the purpose of establishing this thesis, the following pharmacodynamic effects of histamine are presented for mental comparison with the effects of a sunburn.

### Pharmacology of Histamine

Histamine (beta imidazolethylamine), which is derived from histidine by the loss of a COOH group, was discovered by Barger and Dale<sup>4</sup> in the ergot of rye (1909). It is also found in the putrefaction products of organic matter as a result of

bacterial activity. It is formed as a product of normal metabolism in practically all the tissue cells of animals and the higher plants. Its chemical synthesis was first realized by Windaus and Vogt<sup>5</sup>, in 1911 and by Pyman,<sup>6</sup> the same year.

The following table gives an approximate value of the amount of histamine extracted from one kilogram of various organs.<sup>7</sup>

Fresh lung	27.64	mg.
Ovary of the cow	9.0	mg.
Muscle of the bladder	7.0-8.0	mg.
Spleen	5.0-7.5	mg.
Parotid gland	5.3-6.7	mg.
Submaxillary glands	0.5-0.6	mg.
Thyroid gland	0.5	mg.
Adrenal capsules	0.3	mg.
Kidneys	2.6-3.3	mg.
Pancreas	1.6-3.0	mg.
Testicle	1.8	mg.
Liver	1.58	mg.
Striated muscle	1.0-4.0	mg.

Histamine is undoubtedly the active hormone of various tissue extracts, such as secretin, extracted from intestinal mucosa, and others extracted from blood, urine, and liver.

Histidine is evidently the primary substance of histamine, as ergosterol is of vitamin D, so that it is really *histidine* which is stored in the tissues, since histamine, in a dilution of only 1:25,000,000 will produce contraction of a virgin uterus (guinea pig), and will cause contraction of intestinal muscularis.

Histamine has two physiologic antagonists—epinephrin and pituitrin—and a chemical destroyer, histaminase.\* 16, 17, 18, 19, 20.

### The Triple Response

We find that the triple response in the skin is localized at the area affected by the stimulus, and follows the stimulus at an interval directly referable to its type and degree. Thus it appears at once after chemical or thermal stimulation; is a matter of minutes after mechanical stimuli, such as contusions or heavy massage; of hours (or less) after photochemical stimulation; of days after x-ray exposure; and of weeks after gamma radiation.

It is modified by various factors. Thus we find it most pronounced in albinos and red blonds, becoming less marked as individual skin pigment deepens. It is less marked in the aged than in the adult and varies in degree for the same stimulus on different areas of the integument of the same individual. 8, 9

Certain individuals are extremely sensitive—we might say allergic—since stimuli producing a mild or no triple response in most individuals will produce on the sensitive ones a prompt, severe, and lingering response, often with serious systemic symptoms.

Persons with dry skins, such as renal, cardiac, and thyroid cases and the cachectic patients, react mildly, while the reaction is intensified in febrile cases (Rondelli). It does not occur in cicatricial tissue, and the presence of scabs, crusts, and active skin lesions modifies and may even suppress it.

\*Histaminase is furnished in enteric coated tablets, each containing 5 histamine detoxicating units, or in ampules (for intramuscular injection), each containing 1 histamine detoxicating unit. One unit represents the quantity of histaminase capable of detoxicating 1 mg. of histamine hydrochloride during 24 hours at 37° C.

Where sensory nerves are not functioning, whatever the cause (as with local anesthesia), the *flare*, because it is a neurovascular reflex, does *not* occur, but the *red reaction and edema do*, because they are directly the result of histamine action on the smallest vessels. (Roussy and Mosinger<sup>10</sup>; Lewis and Grant<sup>11</sup>; Lewis, Grant, and Harris<sup>12</sup>).

The edema is not merely a filtrate. It has a protein content approximating that of the blood much more closely than does the protein content of ordinary lymph or of dropsical fluid, as it contains from 70 to 80 percent of serum albumin. On aspiration it will be found to contain distinct clots of fibrin, with some entangled leukocytes. It is, in fact, a perfect food for cells. Indeed, the release of histamine by cells is considered to be their natural method of obtaining more nourishment.

As the edema fluid finds its way out of the skin by passages which lead to the lymphatics, it carries the histamine with it and, if considerable, its passage may be marked by an extension of the red reaction as red streaks along the lymphatics, which on fading are succeeded by pigmentation (Lewis). The area of the red reaction and wheal are of a higher temperature, by several degrees, than the normal surrounding skin.

After a period, more or less indeterminate, the area of the red reaction and the wheal, which at first was sharply limited to the area stimulated, tends to spread irregularly beyond the margins into the unstimulated skin. There are itching and hypersensitiveness to touch, but not to cold. The epidermis tends to desquamate as the response subsides. Pigmentation may appear in skins able to pigment.

The resemblance of the histamine triple response to sunburn is evident when histamine (a watery solution of 1:50,000) is introduced by anodal iontophoresis, over a considerable expanse of skin surface. We also obtain an analgesic effect upon deeper-lying painful tissue in both cases.

"From the simple response of healthy skin to such stimuli as are experienced daily by almost all," says Lewis, "through the more severe, though still trivial, local injuries—the bruise, the blister arising from friction or corrosive fluid, and the small scald—which find their simple household remedies; to the most grave effects of mechanical injuries and severe burning, which in their later manifestations endanger life, we pass by simple transition. It becomes apparent that this transition is one of quantity and not of quality; underlying the whole series there is seemingly one determining cause, the unvarying reply of the injured cell to injury. This response of the cell or of a small group of cells protects locally, but when it is accomplished by a like response of multitudes of cells a massive action results, and this soon threatens or terminates the life of the organism as a whole."

These words are applicable to photochemical radiation, whose effects are consistently greater and more grave as they are more intense and extended in their application.

### Sunburn

When histamine, in relatively large amounts, is absorbed from a sunburn of the skin produced by photochemical exposure, it exerts the same action as in the skin, but it is widespread, being disseminated throughout the body. Hence there is a widespread dilatation of capillaries everywhere, which manifestly depletes arteries and veins, and also the heart.



The depletion is still further aggravated by the action of histamine in making the capillaries more pervious, whereby plasma passes into the tissue spaces. There is not, however, sufficient plasma in the body to produce a generalized edema of all the tissues when this occurs.

The withdrawal of so much plasma from the blood produces at once a marked and progressive fall in cardiovascular pressure and the heart labors for a time, vigorously, to maintain an adequate circulation through the depleted arteries and veins. The red blood cells become concentrated in the reduced plasma and pass through the capillaries very sluggishly. Oxygenation in the lungs is therefore reduced and the cells rapidly exhaust the local supply. As a result, tissue asphyxia occurs with rapidly increasing debility. The body experiences air hunger and responds with sighing respiration. Acidosis rises from accumulating carbon dioxide and there is a continued fall of body temperature, with coma and finally death.

Tetanic spasms may occur in voluntary and involuntary muscles, causing bronchospasm and asthma, projectile vomiting of a highly acid gastric fluid, tormina and tenesmus, involuntary urination, salivation and lachrymation, uterine cramps and abortion in women.

Blurring of vision may occur from myosis, and hemorrhages may occur from mucous membranes, as epistaxis, gingival bleeding, hematemesis, and hematuria, as well as interstitial organic bleeding.

When, however, we reduce the dose of histamine by giving a very mild sunburn or a subburn exposure, we have the medicinal pharmacodynamic effects so desirable in photochemical therapy.<sup>13, 14, 15</sup> In this case the capillary dilatation and the extravasation of plasma are moderate, bringing additional nutrition to all the cells, which is augmented by a normal cardiovascular tone. We therefore see, wherever we look, an improvement in function. The digestive powers are augmented. There is a mild stimulation of salivary glands, a decided increase in hydrochloric acid and gastric juice, an increase of secretin, of pancreatic juice, of insulin, of bile, and of kidney excretion. With this there is increased tone of all musculature, both voluntary and involuntary. Voluntary muscles, wasted by disease, have been seen to increase in growth and tone, even in the bedridden.

The blood sugar is increased, due to hepatic activity; there is a diminution of chlorides, which, according to Delherm, is not a consequence of increased gastric production; the acidosis of the blood is accompanied by an alkalosis of the urine; there is an increased excretion of urine, showing that bound water of hydration is being liberated by the cells.

The action of histamine is suppressed by general anesthesia and by the action of histaminase, <sup>16, 17, 18, 19, 20</sup> which destroys it.

The foregoing condensed summary of the pharmacodynamic action of histamine throws a brilliant

light upon what may be called the pharmacodynamic action of photochemical therapy and verifies the claims made by those, who, for long, have advocated its use as a general tonic and body builder in conditions not associated with a manifest deficiency of vitamin D. Indeed, the same indications for the use of histamine therapy and photochemical therapy, as pointed out by widely diverse clinicians, certify to their identity.

### References

- 1.—Lewis, T. L.: "The Blood Vessels of the Human Skin and Their Responses." Shaw and Sons, Ltd., London, 1927.
- 2.—Krogh, A.: "The Anatomy and Physiology of the Capillaries." Yale University Press, New Haven, Conn., 1930.
- 3.—Delherm, L., and A. and M. Gajdos: "L'Histamine." Vigot Frères, Paris, 1935.
- 4.—Barger, B., and Dale, H. H.: The Water-Soluble Active Principle of Ergot. *J. Physiol.*, 77:38, 1909.
- 5.—Windaus, A., and Vogt, W.: Synthesis of Imidazolethylamines. *Berichte d. deutsch. chem. Gesellschaft.*, 44:1721, 1911.
- 6.—Tyman, F. L.: The Synthesis of Histidine. *J. Chem. Soc. of Lond.*, 99:1386, 1911.
- 7.—Best, C. H.; Dale, H. H.; Dudley, H. W.; and Thorpe, W. V.: The Nature of the Vasodilator Constituents of Certain Tissue Extracts. *J. Physiol.*, 62:397, 1927.
- 8.—Dale, H. H. and Richards, A. N.: The Vasodilator Action of Histamine and of Some Other Substances. *J. Physiol.*, 52:110, 1918.
- 9.—Rondelli, U.: Histamine et Capillaires. *Minerva Medica*, 8:850, 1928.
- 10.—Roussy et Mosinger: La Reaction Cutanée Locale a L'Histamine. *Presse Medicale*, 1933, p. 635; Roussy et Mosinger: Etude Comparative de L'Oscillogramme et de la Reaction Cutanée Locale a L'Histamine. *C. R. de S. de Soc. Biol.*, Paris, 1932, p. 633; Roussy et Mosinger: Sur L'influence de Certains Facteurs Locaux dans la Reaction Cutanée Locale a L'Histamine. *C. R. d. S. des Soc. de Biol.*, Paris, 1932, p. 27; Roussy et Mosinger: A propos de la Reaction Cutanée Locale a L'Histamine. *C. R. d. S. des Soc. de Biol.*, Paris, 1932, p. 1136.
- 11.—Lewis, T. L., and Grant, R. T.: Vascular Reaction of the Skin to Injury. *Heart*, 13:219-225.
- 12.—Lewis, T. E.; Grant, R. T.; and Harris, E.: Observations Relating to the Influence of the Cutaneous Nerves on Various Reactions of the Cutaneous Vessels. *Heart*, 14:1-17, 1927.
- 13.—Saidman, J.: "Les Rayons Ultra-violetes en Thérapeutique." Gaston Doin & Cie., Paris, 1928.
- 14.—Luckiesh, M.; Holladay, L. L.; and Taylor, A. H.: Reaction of Untanned Human Skin to Ultraviolet Radiation. *J. Optic. Soc. Amer.*, 20:423 (Aug.), 1930.
- 15.—Luckiesh, M., and Taylor, A. H.: Evaluation of Ultraviolet Radiation. *Tr. Illum. Engin. Soc.*, 30:568, 1935.
- 16.—Luckiesh, M., and Taylor, A. H.: Production of Erythema and Tan by Ultraviolet Energy. *J. A. M. A.*, 112:2510-2511 (June 17), 1938.
- 17.—Roth, G. M., and Horton, B. T.: Hypersensitiveness to Cold: Treatment with Histamine and Histaminase (Report of a Case). *Proc. Staff Meet. Mayo Clinic*, 12:129 (March 3), 1937.
- 18.—Roth, G. M.: Histaminase in Hypersensitiveness to Cold. *J.A.M.A.*, 110:686 (Feb. 26), 1938.
- 19.—Best, C. H.: The Disappearance of Histamine from Autolyzing Lung Tissue. *J. Physiol.*, 67:256 (June 7), 1929.
- 20.—Best, C. H., and McHenry, E. W.: The Inactivation of Histamine. *J. Physiol.*, 70:349 (Dec. 4), 1930.
- 21.—Foshay, L., and Hagebusch, O. E.: Histaminase in the Treatment of Serum Sickness. *J.A.M.A.*, 112:2398 (June 10), 1939 (Histaminase, called T:360, was furnished by Winthrop Chemical Co., Inc.)

471 Park Avenue.

### BIRTH CONTROL FOR ALL

Whatever the prohibitions against contraception, it will be practiced. Unregulated, kept in its present bootleg status, made shameful instead of a wise measure for the preservation of our institutions and standards, it can ruin us. Humanely administered, it can preserve us and deliver us from evil.—ROBERT C. Cook, in *Collier's*.

## ★ Notes and Abstracts ★

### X-Ray Treatment of Otitis Media

THE rationale for the use of roentgenotherapy in acute otitis media is the same as that for other pyogenic infections. Desjardins has pointed out a factor which is common to all infections; namely, leukocytic infiltration. He believes that the variation in response in different infections may be due to the degree of this infiltration, and that the greater the amount of infiltration, the quicker and more likely is a favorable response to radiation therapy. *Roentgen rays have no direct bactericidal effect, in therapeutic doses, but a secondary increase in phagocytosis seems well established.*

The character of the discharge in otitis media remains thin or becomes so, following radiation. This results in adequate drainage of the middle ear cavity. With the reduction of congestion, the eustachian tube becomes more patent. Occasionally, drainage from the middle ear is established by this channel. In view of the striking improvement brought about in certain cases by small doses of radiation (100 r), which cause no skin damage and may be repeated several times without risk, this treatment may be recommended as conservative and safe, in experienced hands.

Roentgenotherapy has been of distinct value in aborting acute catarrhal otitis media; in shortening the course of acute purulent otitis media; and in lessening the necessity for surgery in those cases of acute purulent otitis media complicated by "surgical mastoiditis."—A. H. DOWDY, M.D., in *Radiol.*, June, 1939.

### Painful Heels

PAINFUL heels are easy to recognize, but there has been much dispute as to their treatment. In many cases, roentgenograms have shown an abnormal spur on the os calcis and, as the pain is evidently felt in its neighborhood, it has seemed reasonable to infer that the spur was at the root of the trouble.

Careful dissection has shown that, when pain is present, there is always a small, inflamed bursa at the point of the spur. If this spur is absent, although the heel is painful, the bursa will still be found. It cushions some minute irregularity of bone which the roentgen rays cannot reveal. The bursa should be injected with a small quantity of Proctocaine, or other long-acting, oil-soluble anesthetic. The technic is not difficult, as the patient is usually aware when the needle has reached the painful point.—*Med. World* (Lond.), July 7, 1939.

### Ultraviolet-Ray Therapy

PIGMENTATION is entirely unconnected with any beneficial effects that may be produced with ultraviolet-ray therapy. Real sunlight gives clinical results that are superior to those given by an electric

arc, but because of the expense and difficulty in procuring an adequate supply of ultraviolet rays during many months of the year, an artificial source must be used.

*General treatment:* The whole body is exposed to the ultraviolet rays, and the length of the exposure is made such that *no apparent effect upon the skin is produced*. The result is a toning up of the system generally. If complete body exposure is impracticable, almost the same results can be obtained by exposing a strip of skin eight inches wide, in the center of the chest and of the back.

In addition to the recognized effects produced by a course of ultraviolet treatments, after several weeks, there are definite tonic effects which can be noticed within an hour or two after each individual treatment.—C. E. IREDELL, M.D., M.R.C.P., in *Med. World* (London), March 31, 1939.

☐

**Look for THE LEISURE HOUR among the advertising pages at the back.**

☐

### Short-Wave Diathermy in Infections

INFECTIONS about the head and neck were treated with short-wave diathermy at any stage of infection, and no contra-indications to treatment were apparent. Treatment almost invariably lessened local discomfort and limited the swelling, edema, or induration of the infected areas. Several cases of non-contagious parotitis were treated, with rapid resolution of the inflammation and with no evidence of ulceration.

The dose used was moderate, with an endeavor to maintain a sense of gentle agreeable warmth in and about the lesion. Over-doses result in a bluish-red discoloration of the treated tissues, and retard recovery.

When lymphangitis or lymphadenitis was associated with infections, such lymphatic manifestations regressed to disappearance with ultrashort-wave therapy.—W. J. EGAN, M.D., in *Arch. Phys. Therapy*, June, 1939.

### Heat Treatments

WHILE HEAT, in the form of moist warm or hot poultices, still plays an important part in the general practice, other methods, such as the use of hot steam and hot air, are in danger of being ousted by the newer methods, such as ultra-short-wave therapy. This is not always justifiable, for in the treatment of contracted joints, shrinking of capsules, neuralgia, and immovable flatfoot, the steam jet and the hot air jet are hardly surpassed. The Gaurer heating in a hot chest, and the full bath or steam bath are still unsurpassed by electrical hyperthermia. In arthritic troubles, these often work wonders.—KURT HULSCHINSKY, M.D., in *Brit. J. Phys. Med.*, May, 1939.

# A Living for the Doctor

## The Business of Medicine and the Art of Living



Associate Editor: Ralph L. Gorrell, B.S.M., M.D., D.N.B.

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### "Curbstone Prescribing"

WITH the threat of socialization of medicine becoming a very real danger to the welfare of the medical profession, it is indeed astounding that many physicians will lend themselves heedlessly to tearing down their time-honored status. Yet the pharmacist sees physicians contributing to their own economic and professional downfall daily.

Of the "lese-professional" habits into which physicians fall, seemingly from sheer absent-mindedness, that of "curbstone prescribing" is not uncommon, and seemingly is without a vestige of justification.

By "curbstone prescribing," we refer to the practice of merely saying to the patient: "Go down to the drug store and get a package of this or that," instead of writing a prescription. Whether this careless act occurs in the physician's consultation room, or upon meeting a patient on a street corner, the physician not only is doing the patient an injustice and placing the pharmacist in a spot which is unenviable—he is at the same time destroying his own practice, and the public's confidence in the individualized professional service to which today's medical men point with so much pride.

What are the likely results of "curbstone prescribing"?

First, the patient, confused or ignorant of pharmaceutical and medical terms, is likely to relay to the druggist a request for the wrong item or form of product, with danger of undesirable results. Too, the patient may not have received, or may have forgotten, the proper directions. The pharmacist is not in a position ethically to advise the patient as to this point, and seldom does the package contain satisfactory information.

An example recently was related to us: Directed verbally, a customer asked the druggist for "pyramidon." Because of the nature of the preparation, which is restricted under the Federal Food and Drugs Act, the pharmacist questioned her, learning that she had received no directions, and that it was to be used for a two-year-old child patient. The pharmacist refused to sell the product without more information, and insisted that the patient call the physician for further details. Then it was learned that elixir of pyramidon was wanted. Had

tablets been handed out, the results might have been disastrous.

But not only does the physician neglect the patient and place the pharmacist unjustly in a delicate position by such "curbstone prescribing"—he defeats his own best interests. First of all, he is prescribing not for one particular patient; he is *prescribing for the community at large*. Having learned the name of some high-sounding preparation, the patient quite naturally will tell friends and neighbors about "the medicine Dr. Brown told us to get for Willie's cold"—and for the price of one office call, Dr. Brown has saved ten or a dozen families the necessity of consulting him concerning the ills of other patients. Why pay another office fee to Dr. Brown just to be told to "get some stuff at the drug store"?

In still another way, the physician puts himself out on a limb. He is merely prescribing something which someone puts up in a package. The prescription is not individual; it is something which comes already prepared for the patient—and for dozens of others. The patients feel that he or she is but one of a number that are being run through the medical mill, their symptoms shaped to fit the prepared-in-advance remedy; mass medication, in other words. And, if mass medication is good for the patient today, why is it not good enough to be the regular thing—with governmental supervision, of course?

What could be a better argument for socialized medicine than the evidence of mass-medication furnished by careless physicians themselves in their habit of "curbstone prescribing"?

For the moment, patients may feel "let in" on a medical secret; their vanities may be tickled by their ability to astound the pharmacist with the glib way they are able to roll some high-sounding, unfamiliar term on their tongue; they may have some illusion that they may save money by making an over-the-counter call, instead of having to present a written prescription; but when it is all boiled down and they have time to think it over, the physician's prestige will not have been elevated in the patient's mind, nor in the public's regard. — *N. A. R. D. Journ.*, May 4, 1939.

[Every physician is supposed to be able to write a prescription accurately and legibly, and to know his pharmacology and therapeutics sufficiently well to do it *intelligently*. If he cannot, he should spend the midnight Kilowatts without stint until he has fitted himself to do so. There are plenty of good books on these subjects.

Sometimes a ready-prepared proprietary preparation exactly meets the need of a certain case. If so, a *formal prescription* for it should be written, so that the carbon copy can be filed with the patient's case history. An *accurate record* should be kept of *every* remedy given a patient, whether it is prescribed or dispensed.

Remember, also, that "curbstone prescribing" is frequently committed over the telephone, by lazy or careless physicians. Doctors who give sound and professional advice over the telephone, and then *phone any necessary prescriptions to the pharmacist*, are entitled to and can collect fees for such consultations. The "curbstoners" cannot.—Ed.]

### Making Friends

**Y**ou can make friends in middle age as well as in youth—if you are as easily satisfied.—*Edwardsburg (Mich.) Argus*.

### The Doctor of the Story Books

**A**n English journal, which calls itself "The Economist," ends a short article on "Doctors and the Public" with:

"The doctors will enjoy the respect of the public to precisely the same degree they do not behave like a commercial vested interest."

It is said that the whole world loves a lover, but apparently, if any such regard is held for the doctor in this country as in Great Britain, it is a very special type of doctor. He is the country or city practitioner with a full beard, who answers all calls day and night, keeps no books, sends no bills, dies at fifty-five of a coronary occlusion, and leaves to his wife and children a doubtful future.

A physician has no right, it seems, to watch after his own interests and make himself an income to take care of his overhead and have a little left over for life insurance. Strangely, no patient, even if he doesn't intend to pay, wants to have a doctor drive up to his place in a "jalopy" car. His doctor must maintain a good looking car and a properly furnished office. However, if such is the appearance of prosperity, the patient figures that the doctor must not need the money, and does not worry about when he pays.

The public has taken to itself the picture of the self-sacrificing, charitable physician and does not care to lose it. This is proper, and we as physicians should do our best to maintain this picture of charitable self-sacrifice, but we have a right and a duty to be practical businessmen as well.

Recently a physician told of meeting a nurse who had been with him on an obstetric case many months previously. She asked, "Doctor, did you ever get any pay for that case I helped you with last year?"

"No!" was his reply. "I haven't heard from them since. Did you get your money?"

"No, doctor, I didn't either," she answered. "And I heard later that the husband was worried as to

whether you got home all right. It seems that while we were in the house delivering the baby, he was outside siphoning the gasoline out of your car!"—*Bulletin of the Evanston Branch, Chicago Medical Society, July, 1939.*

**State Medicine is poorhouse medicine.  
Tell your patients.**

### Sound War Policy

**R**IGHT now there's a great deal of talk about our war policy. We don't care what kind of a law they pass, so long as they add these important riders to the legislation:

1.—All government officials responsible for declaring war shall be drafted in the shock troops regiment.

2.—Each battleship, cruiser, destroyer, submarine, and war plane shall carry as excess baggage one or more stockholders of armament-building concerns.

3.—All makers of war munitions shall be sent to the front to snipe machine gun nests when their profits reach a million.

4.—All ministers and rectors who announce to their congregations that "God is fighting with us" shall be sent to the front, to "fight with their God."

5.—College professors who delve into history to prove the enemy "always was a low-down scoundrel, anyway," shall be appointed spies in the enemy ranks, so that they can continue their research first-hand.

6.—War correspondents who invent war atrocities in order to get an interesting headline shall be sent into "no man's land" to stop these atrocities.

7.—The cause of the war shall be clearly stated to the nation, and not disguised as "a holy war to make the world safe for democracy."

8.—And finally, above all, radio commentators who, by voice inflections, have created many crises in the past, shall be put to work donning sound-proof gas masks to test the efficiency of any newly developed gases. And here's one time that we hope that the so-tested gas masks prove to be sub-standard.—*The Better Way*, through *Printed Words*, June, 1939.

When it comes to taking up the real burdens of war, those who agitate war are never there.—SEN. WILLIAM E. BORAH.

### Anesthesia Is "the Practice of Medicine"

**T**HOSE physicians who operate in hospitals which do not permit physicians to give anesthetics, will do well to read of the recent Canadian Superior Court decision, and to communicate it to the hospital authorities.

The surgeon and the Royal Victoria Hospital were jointly sued for \$20,000 following the death of a patient undergoing a surgical operation. The nurse anesthetist was apparently responsible for the tragedy.

Although the judge decided in favor of the defendants, the clear wording of the decision, as

reported in *Current Researches in Anesthesia and Analgesia* for May-June, 1939, indicates that the giving of powerful anesthetic drugs should be considered the duty of a physician. Profit-seeking hospital superintendents and trustees, please note!



## Professional Confidences and Economy Under State Medicine

THE International Labor Bureau at Geneva has issued a truly surprising booklet, written by a certain Dr. Walter Pryll, which is entitled, "Economic Administration of Health Insurance Benefits."

It shows how far the enthusiast can go when one aspect of a subject engages his whole attention. Dr. Pryll's point of view, with regard to professional confidences, is that there can be no question of confidence, since the patient, by seeking treatment, is accepting the whole scheme of insurance, which should provide for full disclosure of everything by the doctor. That is, no doubt, a tenable view. So long as one is quite willing to surrender all the advantages which accrue from confidential and friendly relations between doctor and patient, there is no reason why the physician should not go further and deliberately adopt the attitude of a spy.

Another cheery thesis which grows from the economy illusion is that "the doctor must be content to examine only that part of his patient which participates in his disease." Who is to say, without examination, what parts are or are not involved, does not appear. If we read the doctor aright, the advocates of economy deprecate too full an examination, lest some disorder should be discovered of which no complaint had been made and which need not, therefore, have been so soon a burden on insurance funds. — *Med. World*, (Lond.), June 21, 1939.

[Pass this information along to your patients. They should be interested to know what will happen if they allow State Medicine to be foisted upon them.—Ed.]

## ★ Books ★

### World Teachers Hall

TWELVE WORLD TEACHERS. A Summary of Their Lives and Teachings. By MANLY P. HALL. First Edition. Los Angeles, Calif.: The Philosophers Press, 1937. Price, \$2.00.

THIS summary of the lives and teachings of the master philosophers of this planet, from Akhnaton, of Egypt, through the Buddha and Jesus, to Quetzacoatl, the "Fair God" of the ancient Mayans of Mexico, is a book for any thoughtful reader.

From historical and literary standpoints, the volume is immensely good reading, being simply written, but it is an excellent textbook, as well. The significant quotations from the doctrines of each Master, with their obviously practical applications to our present day, should be profitable to the average man, as well as to the advanced student in mysticism and symbolism.

It should be useful, also, to the medical practitioner, who, in these confusing times, must give conscious or unconscious psychologic aid to patients suffering from those repressions which so often

arise out of the disparity between the teachings of "The Church" and man's good and normal desires; for Mr. Hall's study of the philosophies of these illumined souls shows the basic oneness of all great religions, examples of which may be found in a comparison of the statement of Zoroaster, "Commit no slander; so that infamy and wickedness may not happen unto thee," with Jesus' words, "Whatsoever a man soweth, that shall he also reap"; and of K'ung Fu Tze's exhortation, "Do not unto any man that which thou wouldst not he should do unto you," with the "Golden Rule" of Christianity—and how free they are from the "negativism" that characterizes the sects that have been built upon them!

The book is illustrated with unusual drawings and reproductions, in black and white, of famous paintings of the various saviors.

E. P. G.



## Spain—A Warning for America

AMERICA LOOK AT SPAIN. By MERWIN K. HART. New York: P. J. Kenedy & Sons, 1939. Price, \$2.50.

NOW that the Spanish civil war is over and the patriots have saved their country from Communist internationalism, the facts as to what went on there during those fateful three years (which the people of the United States were almost entirely prevented from learning while the war was in progress) are beginning to become generally available; but in order to know the truth about it, with its impressive warning to the people of this country, we need the guidance of such a man as the distinguished president of the New York State Economic Council, former member of the Legislature of his state, and veteran of the A.E.F., who is the author of this highly important contribution to the literature of international relations, and who learned the things he tells us at first-hand, in Spain, while the fighting was in progress.

Mr. Hart shows how the Communist propaganda machine manipulated newspaper stories so that the Reds were called "Loyalists," and the Nationalists (the patriots) were alluded to as "Insurgents" or "Rebels," thus misleading the people of this country as to the fundamentals of the conflict. A recent article in the *Saturday Evening Post*, by Gen. W. G. Krivitsky, formerly of the Red Army, backs up Hart's statements very forcibly.

In his preface he says: "Now that the war is won, we may expect that Spanish Communists will invade our shores. All the methods and wiles of internationalist propaganda will be turned loose to persuade us to admit these 'oppressed minorities.' To the extent that we yield, we shall be importing highly trained revolutionaries, who will join forces with our own Reds and Pinks . . . America has been given a powerful inoculation of this poison, and at some time—probably during the Roosevelt administration—it is at least possible that they will undertake a coup that, if successful, will reduce this country to a state of vassalage to Soviet Russia. The widespread, smug indifference of most Americans would make such success at least possible. . . . We never heard of Fascism or Nazism until after Communism appeared. Once Communism is exposed to view and destroyed, all menace of the others will disappear overnight."

Mr. Hart feels that two pressing duties face us, as patriotic Americans: First, to cut our orgy of public spending and go back to the traditions of America; and second, at any cost, to keep out of foreign wars—and he shows us, in this book, graphically and convincingly, why he feels that way.

The style of his writing is simple and fast-moving, so that it makes absorbing reading, especially since the subject matter is of vital, personal interest to every American citizen.

Here is a book that should be, not merely read, but studied, quoted from, and recommended to others by every American who is "old-fashioned" enough to love his country and the institutions that have made her great. If enough such people read it, soon, there may yet be time to avoid a bloody attempt to wreck our nation. All true Americans will do well to "Look at Spain."



# The Seminar



(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.)

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

## Problem No. 7 (Medical)

Presented by the Pittsburgh Diagnostic Clinic through "International Clinics"

(See CLIN. MED. & SURG., July, 1939, page 298)

**RECAPITULATION:** A married man of 36 years, who was out of doors a great deal, complained of constant fatigue and an itching eruption on his legs. His appetite was capricious; he vomited occasionally; his hands and feet were puffy and his complexion sallow; and his thinking and speech were slower than his normal.

**Past History:** He had had tonsillitis frequently; two attacks of sudden, severe cramps in his lumbar muscles; fall type of hay fever all his life; no venereal disease. His habits were regular and moderate. His wife and one child were living and well.

**Physical Examination:** Height, 67½ inches; weight, 147 pounds; temperature, 98° F.; pulse, 68; blood pressure, 85/50. His movements were slow and listless; yellowish-brown pigmentation of the face; hair sparse; slight, generalized, non-pitting edema.

**Requirements:** (1) Suggest a tentative diagnosis, giving reasons; (2) What further examinations would you have made? (3) Discuss possible results of such examinations on your final diagnosis and treatment.

**Discussion by Charles P. Ryland, M.D.,**  
Washington, D. C.

My tentative diagnosis is *Addison's disease*, for he has four of the five characteristics of the disease, as described by Addison in 1855; namely, "general languor and debility; a remarkable feebleness of the heart's action; irritability of the stomach; and a peculiar change of the color of the skin." Only "anemia" is absent, and no report on the blood study was given.

The pain in the lumbar region on two occasions is very suggestive, in view of the low blood pressure, loss of general energy, and the distinct yellowish-brown pigmentation of the face. The patient's tendency to feel chilly is another important observation—more evidence of Addison's "feebleness of heart action."

As far as further laboratory work or examinations are concerned, I should like to have a complete blood count; an x-ray study of the lungs and chest, to rule out tuberculosis (80 to 90 percent of patients with Addison's disease have tuberculosis, in one form or another); and blood-urea and blood-chloride estimations.

If these studies should show a lowered hemoglobin percentage and red-cell count, also an elevation of the blood urea, and a marked diminution of the chlorides, with or without evidence of tuberculosis, the diagnosis would be confirmed.

In case no laboratory is available or the clinician doubts the diagnosis, this patient might be put on a salt-free and high-potassium diet, in which case he would become much worse in a short time, producing a crisis which would be much more difficult to treat.

As far as treatment is concerned, I should put him to bed and give him, intravenously and very slowly, 1000 cc. or more of a 10-percent solution of dextrose, with 1 percent sodium chloride and 0.5 percent sodium citrate, to which is added 30 cc. of adrenal cortex extract. The improvement of the patient would govern the amount given. Perhaps after receiving 1500 cc. his stomach would feel more comfortable and his blood pressure would probably rise a little. Fluids then would be forced, especially Addison's elixir (10 Gm. of salt and 5 Gm. of sodium citrate in 1000 cc. of water). The adrenal cortex extract would be repeated daily until marked improvement was noted. When he was much better he would be allowed to get up, given a restriction of the potassium and the addition of sodium salts in his diet, and adrenal cortex extract only as needed.

No mention is made of generalized edema as a symptom of Addison's disease in any textbook or article that I have read. I believe it is due to the lowered blood chlorides and probably would disappear with the intravenous injections suggested and the Addison's elixir.

**Discussion by S. E. Mitchell, M.D.,**  
Malden, Mo.

General loss of energy, loss of appetite, low blood pressure, puffiness without a pitting edema, a sallow complexion, and sparse hair on the head, suggest *hypothyroidism*.

I suggest that a basal metabolism test be made; also a blood study, to rule out any blood dyscrasia.

The eruptions are hemogenic in nature and can be based on a constitutional background. The history of exposure to sunlight over a long period accounts for the yellowish-brown pigmentation of the face.

Thyroid extract and a tonic containing strychnine will bring the patient around. He should also try to protect his face from the sun, because the

pigmentation may be a precancerous lesion, due to constant irritation by the actinic rays.

**Discussion by Frederick D. Smith, M.D.,  
Wichita, Kansas**

This problem, while it does not offer a clear-cut case, does lead one to think of several possibilities: First, one must consider certain endocrine disorders, involving the thyroid, pancreas, or adrenals; second, one must be ready, also, to think of some disease involving the blood-forming organs and either confirm or rule this out with proper blood pictures; third, one must not overlook certain neurologic possibilities, of "worry and anxiety" causes.

The chief complaint of loss of energy ("tired all of the time"), with morning loss of appetite, occasional vomiting, sallow complexion with distinct yellowish-brown pigmentation of the face, brawny generalized edema, slow pulse, and low blood pressure, leads one to consider at once the possibility of an early hypofunction of the adrenal cortex, or a beginning *Addison's disease*. Further laboratory findings, of course, would be necessary to make an accurate diagnosis. The blood chlorides, if decreased, and the plasma also decreased, would almost clinch a positive diagnosis, especially if the gastric acidity was low and urinary findings showed traces of albumin or sugar.

The puffiness of the hands and face, with the chilly feeling, listlessness, unstable and depressed mentality, low pulse and blood pressure, and "tired feeling," also might warrant one in suspecting a *hypothyroid state*, although generally such cases show an increase in weight. Of course, a low basal metabolic rate would aid in making this diagnosis.

The sallow complexion, chilly feeling, and lesions on the legs, which one might term petechiae, together with the history of severe cramping pain in the lumbar region which might be a spinal cord involvement, also leads one to consider certain anemia states, and the blood studies would contribute considerable information about such a condition.

There is nothing in the findings to suggest that this patient is in serious condition or at all incapacitated, although it is true he is not well, because with so low a blood pressure, slow pulse, and general complaints, he needs proper treatment. I hardly think this is a neurologic case, but one cannot entirely rule out a neurocirculatory asthenia, although there should be more psychic factors in his history if this were the diagnosis.

I believe that if this patient were given doses of salt and soda, together with small doses of thyroid, we would see a marked improvement in his general condition, and perhaps produce enough improvement to reach a clinical cure, almost before we could entirely work up his case from a complete laboratory study.

**Discussion by Frederick Weiss, M.D.,  
Harvey, Ill.**

This problem seems to fall in the realm of endocrinopathy. This patient presents a picture of asthenia, non-pitting edema, chilliness, hypotension, and bradycardia. The history fails to note if any gain in weight had occurred.

The system complex as described points to *hypothyroidism*. The gastro-intestinal and skin man-

ifestations are common in hypothyroid individuals, due to altered metabolism.

Other conditions to bear in mind are Addison's disease (the attacks of lumbar pain may be suggestive of development of suprarenal pathosis), hypo-adrenalism, visceral tuberculosis, and syphilis.

The laboratory work-up should consist of basal metabolism, blood-cholesterol, and blood Kahn tests. X-Ray study of the adrenals may be indicated. A high blood cholesterol level will confirm a hypothyroid or myxedematous state.

**Discussion by Ralph L. Gorrell, M.D.,  
Clarion, Iowa**

*Hypothyroidism and adrenal insufficiency* are the first thoughts as to a possible diagnosis.

Sparseness of hair, weakness, non-pitting edema, slowness in thinking and speaking, chilly sensation, all could be explained on the basis of hypothyroidism. Trial doses of thyroid extract or a basal metabolic determination would make the diagnosis complete.

In this connection, when prescribing thyroid extract, be sure to specify the *coated* tablets (such as Parke Davis' Emplets), or the druggist may use the inexpensive, unreliable, uncoated tablets. A girl of 15 recently was put on thyroid therapy and told to increase the dose one grain daily, at the end of 10 days. She came back triumphantly in two months, having received no checkup in the meantime, and told me that she could take six or seven one-grain tablets daily. The tablets were dry and crumbly, and as effective as milk sugar.

Addison's disease should be accompanied by pigmentation on the flexor surfaces of the body (groins, axillae) and in the mucosa of the mouth, rather than on the face, as mentioned here. The hypotension and asthenia suggest this diagnosis. The oral administration of from 10 to 20 grams of sodium chloride should assist him in regaining strength, if adrenal deficiency is present. A low-potassium diet, as suggested by Wilder, may be needed. Adrenal cortex extract is usually reserved for emergencies.

No details are given as to the lumbar pain, but because of its cramping nature, one might think of an obstruction of a hollow viscus, notably a stone in the ureter.

The outdoor occupation suggests a possible parasitic invasion, or insect bites, to explain the eruption.

At the very least, a hemoglobin estimation and red blood-cell count should be made, to rule out pernicious anemia, which may cause pigmentation of the skin. Hyperthyroidism as a cause of pigmentation is ruled out by the slow pulse.

The stools should be examined for eggs or worms, and careful urinalyses should be made.

Asthenia is frequently the first and most prominent symptom in hyperparathyroidism.

**Discussion by G. M. Russell, M.D.,  
Billings, Mont.**

Two possible diagnoses are suggested: *myxedema* and *Addison's disease*. The fact that the pigmentation was only on the face is against Addison's disease. Slow movement and listlessness, combined with the brawny generalized edema, not pitting on pressure, and thinning of the hair, point to myxedema. The pigmentation was probably due to hypo-activity of the suprarenals, secondary to hypothyroidism. The skin eruption was

apparently a subsidiary affair, due to infection or contact irritation.

I would want a red and white blood-cell count, hemoglobin estimation, and basal metabolism test.

The results of laboratory examinations would undoubtedly confirm the diagnosis of myxedema and indicate the administration of sufficient desiccated thyroid gland to make up for the deficiency.

No statement is made as to his having had a thyroidectomy in the past.

**Discussion by Noah E. Ruhl, M.D.,  
Weatherford, Okla.**

The fatigability, edema, slowness of speech and mental activity, depression, slowness of movement, sensitivity to cold, falling hair, and dry skin lead me to the conclusion that this man has *hypothyroidism or early myxedema*.

A basal metabolism test (B. M. R.) would be of great value in making a diagnosis; also an electrocardiogram and a complete chemical and microscopic analysis of the urine, since albumin is often found in these cases, and sometimes sugar.

A B.M.R. of minus 40 would be characteristic. Normal individuals may have a reading of minus 15.

*Treatment:* If hypothyroidism is present, rest, a high-vitamin diet, and thyroid extract by mouth should be instituted. Thyroid should be begun with very small, frequently-repeated doses and the dose slowly and carefully increased until maximum benefit is received.

Many of these cases have secondary anemia, and ferrous sulphate, with vitamin B, should be given three to four times a day.

A careful watch should be made of the kidneys, heart, liver, and basal metabolism.

**Discussion by J. Alba Johnston, M.D.,  
Byron, Ill.**

My *guess* in this case would be a chronic auto-toxemia of intestinal origin, of many years' duration, probably from childhood. The basis of this guess is the presence of hay fever, tonsillitis, a sallow complexion, tired feeling, skin eruption, vomiting and muscle cramps.

I would have given him no solid food (liquids only) for two or three weeks, along with laxatives, high colonic irrigations, and massage of the abdomen.

I think that, if a careful examination was made, some tender spots could be found along the spine, between the skull and sacrum. I should have treated them by repeated percussion over the tender areas. In this technic one places from 2 to 8 layers of turkish toweling over the spot to be treated; presses a thin, stiff strip of metal (pleximeter) firmly down upon the pad; and strikes repeated blows with a rubber-headed hammer, the force used being adjusted to the patient and the condition present.

This man's system, perhaps, is so clogged with waste material that none of his organs can function normally.

**Discussion by L. E. Williams, M.D.,  
Kansas City, Mo.**

The history and physical findings in this case give us much data with which to work, yet I should like to know whether the tired feeling and retardation of memory preceded the eruption on the legs, and if so, how long.

The series of infections which this patient has suffered undoubtedly has been hard on his thyroid gland, which takes an active part in warding off infections. The cramping pains which occurred three years ago, and again five months ago, were probably of visceral origin, as they left no soreness, and may have been due to an infection of the adrenal gland or to a renal calculus. The allergy suggests a calcium deficiency, probably resulting from a diseased parathyroid. The irregular vomiting might be due to an aversion for food or to altered gastric secretion. The eruption on the legs is typical of hook-worm invasion; yet it could be eczema, resulting from the edematous condition of the extremities.

Before making a final diagnosis I should like to have an x-ray study of the chest and kidney regions; a gastric analysis; a stool examination; a complete blood examination; urinalysis; and a basal metabolism test.

The alopecia, impaired memory, slow gait, and listlessness, cause one to think of syphilis, the great imitator of diseases. The sallow complexion and puffiness of the eyes and hands suggest nephritis, but this is only a part of the picture.

In generalized scleroderma there is pigmentation and a generalized, non-pitting edema, but at this stage of the disease the joints would be so stiff that the patient would not be able to walk. Pernicious anemia could account for the pigmentation, sallow complexion, gastro-intestinal attacks, puffiness of the eyes and hands, lumbar pains, low blood pressure, and asthenia, but we must look elsewhere for the cause of the other findings. In Addison's disease we may have the same pigmentation (though it is not always present and the mucous membranes are usually involved), gastric upsets, asthenia, low blood pressure, lumbar pain, and low blood sugar, but we still have only part of the picture.

Myxedema is characterized by most of the symptoms and physical findings enumerated in this case. However, in true myxedema, there is an increase in weight. This patient is underweight (weighing only 147 pounds, though edematous) for his five feet seven and one-half inches. The mask-like facies is absent, as is also the swollen mucous membrane of the mouth. In the larval type of myxedema there is not the usual increase in weight nor the typical facies. There is a feeling of improvement as the day progresses. In neither case, however, is the blood sugar usually low.

My tentative diagnosis is *hypothyroidism*, known as the larval type of myxedema, with an involvement of the adrenals and the pituitary.

*Treatment* will depend upon the final diagnosis, as revealed by the laboratory findings. Thyroid gland therapy is indicated in any event.

**Discussion by S. M. E. Simon, M.D.,  
Williamson, West Va.**

A man who is mostly connected with agriculture comes in contact with weeds to which he would probably be sensitive. The eruption on his body could be quite commonly caused by this *allergy*.

The "Cyclopedia of Medicine," Service for 1938, page 7, says:

"Allergic individuals often manifest all the evidences of hypo-adrenia—low blood pressure, asthenia, hypoglycemia, soft small pulse, and definite vasomotor instability—but there is no evidence that the adrenals alone are at fault."

There was a generalized edema, not pitting on pressure, and the eruption on the legs is no doubt caused from an allergy to some of the weeds with which this patient comes in contact.

I believe that there is an evidence of *Addison's disease*, which has some connection as to the cause of this allergy. It is very common for patients with such conditions to have also systemic disturbance which has much to do with the appetite, with the gastro-intestinal upset, etc. This mostly appears about the time of his contact with the weeds to which he is sensitive.

Functional *hypo-adrenia* which is a symptom complex of deficiency of the adrenals, brought about by the allergy, exhibits all the symptoms of loss of appetite, slow metabolism, and psychasthenia.

I would suggest a Kahn test and a spinal fluid examination, and also test him with the various pollens with which he comes in contact.

There is no doubt that the treatment will clear up the diagnosis between *hypo-adrenia* and *Addison's disease*; and whether or not allergy is a contributing factor to *Addison's disease*, it is worth while to continue to study this case on this basis.

#### Discussion by George B. Lake, M.D., Waukegan, Ill.

On the basis of the chronic fatigue; slow thought, speech, and movements; puffiness of the hands and face and general edema; sparse hair; chilliness; unusually low blood pressure; and the history of repeated tonsillar infections, my primary diagnosis was *hypothyroidism* (myxedema).

These symptoms, especially the low blood pressure, along with the capricious appetite, the pigmentation on his face, and the absence of excess weight for his height, suggested a secondary diagnosis of *hypo-adrenia* (possibly early *Addison's disease*).

The eruption on his legs was probably a *skin allergy* to some weeds or grasses with which he came in contact. The vomiting and lumbar cramps may or may not have had any significance.

I asked for the following laboratory tests, the results of which are here reported:

*Urinalysis*: Negative.

*Wassermann and Kahn tests*: Negative.

*Blood Examination*: Hemoglobin, 85 percent; red cells, 3,630,000; leukocytes, 6,300; differential—polys, 38 percent; lymphocytes, 58 percent; monocytes, 4 percent.

*Basal Metabolism*: Three tests, minus 35, 40, and 34 percent, respectively.

*Blood Sugar*: 110 mg. per 100 cc. of blood.

The results of these tests seemed to confirm my tentative diagnoses, so I should have prescribed thyroid extract (Endothylin) by mouth, beginning with  $\frac{1}{2}$  grain daily and gradually increasing the dose until signs of improvement or of thyrotoxicosis appeared, and then adjusting the dose accordingly. I should also have ordered an extract of whole adrenal glands, given orally; and recommended that the patient keep out of the grass and weeds until his legs healed. Meantime I should have placed him on a general detoxicating regime.

#### Solution by the Pittsburgh Diagnostic Clinic

The predominant symptoms in this case were due to *hypothyroidism*, and this was confirmed by the basal metabolism tests. Apparently this thyroid underactivity was spontaneous, as there was

no evidence of preceding overactivity or inflammation of the gland.

The condition of the skin of the legs was, we believe, due to *atopy*, as the patient was suffering from hay fever at the time, and the typical blebs suggested contact with some pollen (probably rag-weed). We doubt that the hypothyroidism had any connection with this condition.

X-Ray studies showed a periapical dental infection and osteo-arthritis of the dorsal spine, but no kidney stone. These findings might have accounted for the attacks of lumbar pain. No other abnormalities were found.

*Treatment*: The patient was given 1 grain of desiccated thyroid, three times daily, keeping a daily record of his pulse rate and weight and checking each week with a basal metabolism test, until the proper daily dose was determined. The dental infection was given prompt attention.

In 22 days the patient lost 4 pounds in weight (edema), his basal metabolism became normal, and he felt much better. The maintenance dose of thyroid appears to be 3 or 4 grains daily.



#### Problem No. 9 (Obstetric)\*

Presented by George O. Bassett, M.D.,  
Prescott, Ariz.

A WHITE primipara age 30, with a completely negative family and previous personal history gave a menstrual history that was normal in every respect. There was no history of a fall, injury, or other accident. Pregnancy was normal up to the ninth month. On examination, May 18, three weeks prior to the expected date of delivery, her blood pressure was found to be moderately elevated (132/80); pulse rate, 80; urine, negative; no other symptoms. She felt well. She was told to report back in one week and advised generally, with the increased blood pressure in mind.

At 12:30 A. M., May 20, she called to report slight cramps and slight vaginal bleeding (about a teaspoonful). She felt entirely well otherwise, and said she thought labor was beginning. She was advised to come to the hospital at once, by ambulance. On arrival she was examined. There was a very slight trace of blood at the cervix, which was dilated to about the breadth of two fingers. She stated that she had had a mild headache that day. The blood pressure was 148/90; pulse, 80 (the blood pressure was discounted somewhat because of excitement). She was having regular pains every five minutes, lasting about twenty seconds. There was pain low down in the back and a slight desire to bear down. She complained of pain over the fundus and soreness on touch. The fetal activity had been more than normal all day, but was much less at this time. The fetal heart sounds were clear, though rather distant; rate k56. The urine showed a very slight trace of albumin; specific gravity, 1.017. There was no evidence of shock or concealed bleeding. She was reassured, given a sedative, and the nurse was instructed to watch her carefully.

She slept well, was very cheerful the following morning, and had no headache. The pains were harder, and of longer duration. There was still

(Continued on page 389)

\*Adapted from *Southwest. Med.*

# Clinical Notes and Abstracts



## Pain About the Great Toe\*

A MOBILE great toe is essential for effortless walking, standing, and running. It is liable to trauma and is often the seat of pain. Amongst the causes of pain are: (1) The ingrowing toe nail; (2) the subungual exostosis; (3) hallux valgus and rigidus; (4) bunions; and (5) chronic "sores" about the hallux. It is good policy to make x-ray studies of all painful feet for unsuspected fractures, bone spurs, advanced joint disease, and calcified arteries.

**The Ingrowing Toe-Nail** is frequently the result of wearing tight shoes; while tight socks, poor toilet, or vigorous but unwise manicuring predispose to it. A frequently-undetected underlying factor is hallux rigidus, which throws extra extension on the interphalangeal joint and presses the nail deeply into the soft tissues. This occurs even in children.

Surgery is rarely needed. A metatarsal bar is nailed to the sole, behind the tread. Shoes of adequate size are fitted. Large socks are procured, and are changed frequently; perspiration and washing cause socks to shrink and thicken.

The feet are bathed quickly with soap and warm water in the evening and if they are perspiring freely, then also in the morning. Soaking or the use of very hot water is harmful, as it macerates and devitalises the skin. After gentle and thorough drying, the granulations are touched, *once*, with a matchstick dipped in iodine. The patient is cautioned not to apply the antiseptic generously. A layer of vaseline or crude cod-liver oil is smeared over the nail and a piece of gauze lightly applied.

The nail is cut with round-ended scissors, so that the lateral edges project out and the center is cut well in. The corners of the nail are left alone and, when they protrude beyond the pulp of the toe, are snipped off level. The middle of the nail surface is scraped every other day, with a file or the blade of the scissors. The effect of this is to stimulate new growth in the center and to slow lateral growth, which is encouraged by the almost invariable but quite erroneous paring of the corners.

During an acute attack of inflammation or supuration, the patient should go to bed, and cold compresses of 12-percent sodium sulphate are applied twice daily. *Avoid* all manicuring, baths, special dressings, insertion of woolen plugs, poultices, salves, and fomentations.

**The Subungual Exostosis** is a small outgrowth of cancellous bone which usually arises from the dorsum or side of the terminal phalanx of the hallux. The periosteum covering the terminal phalanx is immediately under the nail bed, so that a new growth quickly interferes with the nail contour, raising it unevenly and causing pain by pressure. The nail may be split or elevated, so

that the outgrowth protrudes from under it and looks like the kernel of a hazelnut lying in an opened shell. Roentgen-ray examination is advisable in all persistent ailments of the hallux; an unsuspected exostosis may thus be revealed.

All or part of the nail should be removed to expose the swelling; the nail bed should be incised and reflected and the bony outgrowth should be shaved level with a scalpel-sharp chisel or a dainty bone forceps. The raw bone area remaining is made smooth and dry by rubbing in a little sterilized Horsley's wax. A vaseline dressing and a light plaster of Paris splint to the foot are applied, and the patient walks after seven days, wearing a stout shoe. The reformation of the nail takes from three to six months, and the patients are warned not to manicure it.

**Hallux Valgus and Bunion:** Hallux valgus is characterized by the whole big toe pointing markedly outwards, either over, under, or against the second toe. The exciting factors are: congenital weakness; unbalanced muscular action in the presence of pes planus; unsuitable socks and shoes; and overwork of the feet (especially by standing). An increase in body weight and loss of tone in the calf muscles also contribute. The inflammation of the *bunion* which covers the lateral surface of the metatarsophalangeal joint is usually complained of by the patient, who may not have been aware of the deformity.

**Hallux Rigidus:** The line of the great toe is normal, but it cannot be extended at the metatarsophalangeal joint. As dorsiflexion of the toe is impossible, early fatigue and aching in the foot occur after more than usual exercise. A bunion develops on the *top* of the joint, as contrasted to its *lateral* position in hallux valgus.

The *management* of both conditions: (1) Suitably graded exercises and regulation of work will care for the underlying flatfoot and loss of muscle tone; (2) the shoes are adjusted to remove undue stress on the valgus or rigidus deformity; and (3) the bunion is treated by incision, if pus is present, or a hole is cut in three thicknesses of adhesive felt to form a pad to fit comfortably *around*, but not *on*, the bunion, the shoe being thereby held away from the inflamed area. Compresses of lead and opium are soothing at night.

The care of the feet should be *written out* for the patient: (1) Scrub the feet and legs daily in warm water with a soft brush; (2) wear thick stockings and change them frequently; (3) avoid standing; (4) walk with the toes pointing directly forwards, never turned outwards; (5) *shoes* should be worn at all times (slippers should be burned); (6) when sitting, put the feet up on a chair, to relieve congestion; (7) practise moving the feet and toes up and down 12 times after meals, when in bed, and on a bus or train. This retones the muscles of the feet and calf and is

\*Med. Press, Aug., 1939.



definitely helpful. Later, walking on the heels is started, beginning with six paces and increasing to 30 or 40 paces daily.

Shoes must have stiff soles, must be wide enough and high enough over the metatarsophalangeal joints, and must have a *straight* inside edge, instead of the usual type curving outwards to a point. A metatarsal bar may be nailed transversely across the sole, behind the tread.

HAROLD DODD, F.R.C.S.

Kensington, England.



### Pointers on Tuberculosis

1.—Tuberculosis should never be diagnosed unequivocally unless the tubercle bacilli are found.

2.—There are *no healthy carriers of tuberculosis*. If bacilli are found in the sputum of an adult or in the gastric washings of a child, that person *has tuberculosis*.

3.—The majority of cases of tuberculosis have had contact with known cases. Inquiry must be thorough, so that other exposed patients may be examined.

4.—*There are no signs and no symptoms in early tuberculosis*. By the time that weight loss, chronic cough, fatigue, or hemoptysis is noted, the infection is moderately or far advanced. Early cases can be detected only by tuberculin testing and roentgenographic studies of *every person who has been in contact with a case of tuberculosis*.

5.—*Infants and the aged may have tuberculosis*. One man of 84 years has had a fibroid form of tuberculosis for many years.—JOHN C. PARSONS, M.D., before the Central Teaching Clinic at Des Moines, Iowa, Apr. 21, 1939.



### Diagnostic Changes in the Nails\*

THE nails are quick to show changes when the general health fails. When *all* the nails of the hands and feet show the same alterations, it may be assumed that some systemic condition, such as arthritis, acting through the circulation, has altered them in color, thickness, or rate of growth. When only some nails are affected and the others remain quite normal, the cause must be sought locally (injury, ringworm, or some other infection of the nail, or inflammation or growth affecting the skin or deeper tissues around the nail).

*Leukonychia* (the familiar white spots which appear from time to time in the nails) is often due to trauma. The presence of white transverse bands in *all* of the nails may be diagnostically important as a sign of *chronic arsenical poisoning*, or rarely, as a result of the administration of thallium acetate. Arsenical poisoning may produce a brown pigmentation. A slate-blue discoloration of the nail beds may signify that *argyria* is beginning and that all silver preparations, whether administered externally or internally, should be stopped.

Chronic mercurial poisoning may be indicated by a brownish-black discoloration. *Blue-black discoloration* is usually due to hemorrhage, which may occur spontaneously in purpura, hemophilia, and scurvy, and as a result of trauma.

*Fragile, splitting nails* may result from pro-

longed contact with chemicals, too-frequent manicuring, or congenital conditions. The soft, egg-shell nail is associated with arthritis, peripheral neuritis, leprosy, and hemiplegia. Dry, atrophic nails may be the only sign of *late syphilis*.

In all atrophic conditions of the nails, the administration of sulphur is indicated, since the keratin of the nail has a high sulphur content.

Longitudinal striations of the nails are often found in adults past middle age, in association with splitting of the nails at the free margins. Vitamin deficiency, a focus of infection in a tooth or the bowel, or ringworm infection may be the cause.

Transverse lines appear on the nails as a result of previous interference with the growth of the nail matrix. This may have been caused by local or systemic conditions. Since a complete nail takes from five to six months to grow, it is possible to calculate, from the position of the line, approximately when the serious lesions occurred.

Shedding and atrophy of the nails may occur as a result of congenital tendencies. Permanent atrophy may follow injuries, scars from disease, frostbite, nerve injuries, and hyperthyroidism.

R. C. Low, M.D.

London, England.



Look for FACTS AND COMMENTS among the advertising pages at the back.



### Handling the Arteriosclerotic Patient\*

THE patient with arteriosclerosis, having experienced such symptoms as headaches, dizziness, unsteadiness on her feet, tremors, insomnia, or fainting spells, has been informed that she has arteriosclerosis and that she has high blood pressure. Sometimes a warning is given that she may have a "stroke" unless something is done immediately. Then an anxiety state develops as a result. The nervous tension increases, and still more somatic manifestations develop.

The care of such a case is not limited to the treatment of the patient alone. The children or relatives with whom this patient lives must receive equal attention. They must be informed of the exact nature of the illness and be told of the proper attitude to be taken toward the patient; not to discuss her symptoms with her; not to increase her anxiety; and above all, the ways and means of making a suitable environment in which, under the circumstances, she may live. This condition is oftentimes as much of a mystery to the relatives as to the patient. When it is properly explained, they will no longer think that the patient is a "fussy old lady," "a chronic complainer," but may show the proper respect and attention that is due.

The next step is to win the confidence of the patient. This takes time and patience. One must explain the condition in *terms that the patient understands*. Emphasis must be placed upon the observations to be made by the patient as to her own improvement, rather than upon the physician's findings.

The physician, in the meantime, is using theobromine or theocaine and luminal with potassium

\*Practitioner, May, 1939.

\*N. Y. S. J. M., July 1, 1939.

iodide, not only to lower the blood pressure but to give relief from the head pains, "sinking spells," and tremors. Symptomatic treatment for the over-worked heart is essential. A daily routine is worked out for activities, rest, and diet. As the nervous tension is reduced, many of the somatic manifestations disappear, and restful sleep is established. An additional five years of happiness in the fifth or sixth decade is as great a victory as the cure of typhoid at forty. *The physician has made a friend, because he has been a friend to the patient.*

O. C. PERKINS, M.D.

Brooklyn, N. Y.

### The Treatment of Worry

THE mind is so constituted that a morbid memory cannot be driven out by repeating, "I will forget it." *One thought can be driven out only by another.* The stream of consciousness is a stream, and is always flowing. Selection of a proper subject for mental examination or engaging in work of an interesting kind will replace the undesirable worry with an acceptable activity. This choice must be conscious, intelligent, and directed.

Worry is seen, in its simple manifestations, among those who get up to unlock the door to make sure that they locked it. *Better is it for one to allow a burglar to carry away the entire house, rather than to subject one's nervous system to such activity.*

It is important to give thought to the morrow, but one should practice doing carefully what one has to do, and then dismissing the matter from the mind. The danger of losing mental health must be set over against the cost of leaving the light burning in the hall, or the door unlocked, or the possible errors in the final examination.—JESSE F. WILLIAMS, M.D., in "Personal Hygiene Applied." Philadelphia: W. B. Saunders Co., 1925.

### The Care of the Chronically Ill

MEDICAL education, as carried out today, stimulates the student's interest in the diagnosis, as well as the care and treatment, of acute organic disorders. This condition continues through his internship and into his private practise.

The chronically ill patient represents a group that holds very little interest for many physicians. They are unable to supply new parts or to reconstruct the diseased areas. The disease process is considered chronic and progressive, and the problem is dismissed as hopeless.

The patient soon realizes the lack of interest on the part of the physician and travels from one to another, until finally he loses confidence in physicians as a group. This lack of interest confirms any previous ideas that the patient may have had that his illness was progressive and his case hopeless. He becomes depressed and unhappy.

Since happiness is the real indication of success, *any person who is unhappy is mentally ill.* It is as much the duty of a physician to treat this type of illness as it is to overcome an organic disorder, even though both exist in the same patient. The state of unhappiness many times aggravates the organic process that exists.

The physician should realize that the gratification of the patient and the self-satisfaction on his

part are just as exciting as the localization of a brain tumor or the successful treatment of meningitis.—ORMAN C. PERKINS, M.D., in *N. Y. St. J. of M.*, July 1, 1939.

### Genital Sores\*

IN the examination of genital sores, significant points to be noticed are: (1) single or multiple sores; (2) tissue destruction; (3) character of the discharge; (4) odor; (5) induration; (6) sensitivity; (7) cleanliness; and (most important) (8) adenopathy.

Syphilitic chancres and the primary sores of lymphogranuloma inguinale, characteristically have associated adjacent adenopathy. It is irregular or absent in the others, unless there be a mixed infection. Since the principal lymphatic drainage in a woman's case is into the pelvic and perirectal areas, she may have no external adenopathies and her symptoms may be internal.

**Chancre:** The chancre may remain as a painless, subcutaneous, non-suppurating nodule, or may necrose centrally. Better personal cleanliness has now changed chancre characteristics from the former prominent, nasty ulcer to a rather innocuous-appearing affair.

On mucous membranes, the chancre may be a painless, indurated, open sore. Upon protected skin, it may resemble a single or several small, firm, collapsed blisters, which later ulcerate. Upon the hairy areas, it may appear as an inconspicuous, almost symptomless furuncle. A labial chancre may be symptomless, except for a nodule with surrounding soft-tissue edema. An anal or perianal chancre may be completely masked by complicating hemorrhoids. *Hardness is not a necessary characteristic.*

A urethral syphilitic chancre, in either sex, may resemble a burn, with swelling and pouting of the meatus and a serous discharge.

Inguinal adenopathy may be caused by non-specific infections, such as interdigital ringworm.

W. RAY JONES, M.D.

Seattle, Wash.

### Retropharyngeal Abscess

IN retropharyngeal abscess, there is an acute upper respiratory infection, with a fever of from 101° to 104° F., followed, usually after 10 days, by increasingly painful and difficult swallowing, a metallic cough, a harsh cry, and gradually increasing pain and dyspnea. The patient looks toxic and is dehydrated and emaciated. The head is thrown back and held rigid, and away from the posterior cervical swelling on the side of the abscess. Ninety-nine times out of a hundred the abscess is unilateral. Often it cannot be seen, but proper digital examination of the throat will always make the diagnosis certain.

The usual wrong diagnosis is laryngeal diphtheria, in which condition there is no difficulty in swallowing, the fever rarely goes above 101° F., and the patient does not look toxic.

Early drainage through the mouth should be secured. *Open the full length of the abscess.* All cases should be in a hospital. The patient should be in the Rose position, with the head down. Suc-

\**Northwest Med.*, July, 1939.

tion should be used and intubation tubes kept ready. No anesthetic should be used and a mouth gag should not be used except by a skilled assistant.—FRANK H. RIMER, M.D., in *Pennsylvania M. J.*, July, 1939.

### Factors in Insanity

INSANITY is commonly looked upon as sudden, peculiar, and mysterious. Quite the contrary is the case. It is the logical result of changes occurring in the brain; its causes are, in the main, well known; and it comes as a *gradual deterioration*.

In insanity, two elements are involved—the predisposing and the exciting. The predisposing are the inherited and acquired abnormalities of the individual, while the exciting are to be found in the storms and stresses of life. The first must be positively present, but not always being evident, it is often overlooked, and it is the *second or exciting cause, itself relatively unimportant, that is generally held responsible*. Thus we hear of persons going insane from grief and from disappointment, from fear and from shock; but, while it is true that without something of these the disease might never have developed, it is equally true that none of them alone can bring it on.—J. F. WILLIAMS, M.D., in "Personal Hygiene Applied." (W. B. Saunders Co.)

[Only when the public grasps these basic facts will the rising tide of insanity be checked, and the physician will see *early* or pre-insanity stages of mental illness. Only when the physician stops making a diagnosis of "neurasthenia" and, instead, tries to *help the patient* by either kindly talking things over or referring him to a psychiatrist who will take the time to do so, will the cultist and the charlatan be idle. Further than this, we must recognize that insanity is a disease of the *mind or personality*, and that there may be no lesions in the brain to account for it.—Ed.]

### Progress in Medicine

PROGRESS in medicine can be followed historically along two main lines; the method of observation and the method of experimentation.

The method of observation has given us our descriptions of disease. The capacity of clinical observation to separate and define diseases was greatly enforced by the work of morbid anatomists; the combined observations laid the foundations of modern clinical medicine. While the methods of pure observation have long since passed their period of greatest activity, the experimental method continues to display amazing progress and growth.

The experimental method, using this term in its broadest sense, is exemplified in the physiologic field by the work of Harvey and Bernard; in the bacteriologic field by Pasteur and Koch. This method, in its development and in its deeper searchings, has found the use of lower animals increasingly necessary to its study of health and disease and has led to the foundation of physiology and pathology as independent sciences, and to the great growth of modern laboratories.

By the splitting off of these two sciences, clinical investigators have again become content with mere observation, as they are separated from in-

valuable contacts with physiology and pathology. *The clinical science of the future must deal with patients*. It must seek to define diseases, as these occur in man; to understand these diseases; and here to make use of the experimental method. This work must be inspired by direct contact with disease.—SIR THOMAS LEWIS, M.D., F.R.C.P., F.R.S., *Brit. Med. J.*, Mar. 15, 1939.

A Living for the Doctor is a very vital section of CLINICAL MEDICINE AND SURGERY, and in my reading of this Journal for thirty-seven years I still regard it as the one most adapted to the general practitioner.—E. C. J., M.D., Iowa.

### The Seminar

(Continued from page 385)

a slight trace of blood at the cervix; during the night she had passed no more than a trace on the pad. The dilatation of the cervix was increased. The fetal heart sounds were distant and movement only occasional. The pain over the fundus was increased and the sensitiveness to touch more marked. A consultant was called.

In view of the apparent onset of labor and no further bleeding, it was considered advisable to await developments. A blood count done on admission, and the following morning showed no appreciable change: Red cells, 3,900,000; hemoglobin, 71%; white cells, 10,800, with polys. 64; blood pressure, 150/90; pulse, 74. That morning she complained of nausea and vomited. She was given 1000 cc. of dextrose and saline solution, intravenously, and a sedative.

The pains continued during the day, but there was no further external evidence of bleeding and no signs of shock or evidence of internal bleeding. The pain and sensitiveness over the fundus increased. This was difficult to gage, because of the labor pains. No fetal heart sounds were heard. A blood count, late in the afternoon, showed no appreciable change. The blood pressure was about the same—no increase. That evening, as she was tired and becoming nervous, she was given a hypodermic injection of morphine,  $\frac{1}{4}$  grain (16 mg.). She slept most of the night.

Prior to our going into the operating room, early the following morning, she was seen for a moment, when she complained of headache and nausea. The blood pressure was 145/85; pulse, 82. She complained most of tenderness over the fundus, and was nervous and irritable. She was given another dextrose and saline infusion and a small dose of morphine. It was planned to see her further, in consultation, later in the morning. Another blood count was ordered.

Less than two hours later her condition was decidedly changed. She was in mild shock, and showed evidence of internal bleeding. The blood pressure was 135/85; pulse, 86; blood count: red cells 3,650,000; hemoglobin, 73%. A second 1,000 cc. of 10 percent dextrose solution was given and she was sent to the operating room.

*Requirements:* What is your diagnosis and how would you have handled this case, *giving reasons?*

# Thumbnail Therapeutics



## The Treatment of Dysmenorrhea

• A study of a series of patients with functional dysmenorrhea, by the use of *endometrial biopsies*, indicates that 36 percent had normal endocrine function and 64 percent had some degree of ovarian failure. Of the latter group, 60 percent were primarily corpus luteum deficiencies and 40 percent showed excessive follicular activity. Several cases were deficient in both hormones.

Pelvic congestion, often caused by improper sex hygiene, was apparently the causative factor in 20 percent of cases.—J. KOTZ, M.D., F.A.C.S., in *Am. J. Obst. & Gynec.*, Jan. 1939.

[The endometrial biopsy permits evaluation of the deficiency of hormones and the effect of endocrine therapy. It is manifestly improper to continue the administration of the follicular hormone (Theelin, Progynon) if an excess of it is already present.—Ed.]

## Painful Dysenteries

• Papaverine hydrochloride, with Pantopon and atrinol (Spasmalgin Compound), has great value in relieving the distressing abdominal cramps and frequent, bloody discharges associated with the acute phase of chronic ulcerative colitis and other acute dysenteries.—J. A. BARGEN, M.D., in *Surg., Gynec., & Obst.*, April, 1939.

## Avertin in Asthmatic Crisis

• The use of from 50 to 70 milligrams of Avertin, in solution, per kilogram of body weight may pleasantly overcome an acute crisis of asthma. The drug is injected *slowly* into the rectum. The patient falls slowly into a pleasant sleep, and on awakening, is often free from any recurrence for a long period.—*Med. World*, Feb. 3, 1939.

## Quinine-Calcium As an Ecbolic

• Quinine-calcium produces a greater increase in uterine contractions than do equivalent amounts of quinine or calcium when given independently. The increase is due primarily to an increase in the amplitude of the contractions, the rate remaining practically unchanged. The effect lasts from one to one and a half hours after slow intravenous injection, and for two or three hours after intramuscular injection. — J. R. JOHNSON, M.D., in *Am. J. Obst. & Gynec.*, Jan., 1939.

## Gauze Dissection

• Gauze dissection should *not* be employed. It is difficult to think of a material that will result in more trauma to the tissues, with the possible exception of sandpaper.—T. L. HAWKINS, M.D., in *Journal-Lancet*, Feb., 1939.

## Pre-Tonsillectomy Precautions in Rheumatic Persons

• If the tonsils are foci of infection in rheumatism, their removal is apt to liberate into the system a large amount of toxins, which will cause an acute exacerbation of the disease. To forestall this it is advisable to administer sodium salicylate (200 grains—13.3 Gm.—dissolved in boiled starch solution, by rectum), on the evening before tonsillectomy. This should be continued for from five to seven days postoperatively, and will obviate flare-ups of the disease.—R. ALMOUR, M.D., in *N. Y. S. J. M.*, Jan. 15, 1939.

## Calomel in Pruritus Ani

• These procedures should be carried out if pruritus ani is to be given a chance to heal: (1) Scrupulous local cleanliness, especially washing after defecation; (2)  $\frac{1}{4}$  grain (16 mg.) of calomel and some simple sedative should be taken by mouth each night; and (3) a dusting powder of calomel, starch, and zinc oxide, in equal parts, may be used only as needed.—*Med. World*, Feb. 9, 1939.

## Swallowing in Dysphagia

• Painful swallowing is met with in sore throat, peritonsillar abscess, tonsillectomy, incision of an abscess (lingual, pharyngeal), and other conditions. In order to avoid pain, this method is employed:

The patient, *while sitting up*, must take into the mouth, at one gulp, as much fluid as possible, and then lie down without swallowing. After the fluid has filled the space up to the gums anteriorly, the whole of the fluid may be swallowed without pain. Fluid nourishment may thus be taken painlessly in dislocation of the lower jaw, dental periostitis, and the like. Fruit juice, lemonade, and grape juice may be taken.—*Med. World*, (Lond.), May 19, 1939.

## Sulfanilamide Therapy

• The ambulatory patient is unable to tolerate the same amount of the drug that may be given safely to the patient resting in bed. A patient who tolerated 100 grains (6.5 grams) daily, while hospitalized, became toxic while taking only 40 grains (2.6 grams) daily when working.

One patient, somewhat dissatisfied with this earthly existence took *fifty-eight* 5-grain sulfanilamide tablets (290 grains or 18.85 grams) at one time, with no more serious effect than a transient decrease in the respiratory rate and marked drowsiness, both of which symptoms were relieved by forced fluids and respiratory stimulants for 24 hours.—A. L. CLARK, M.D., in *J. A. M. A.*, Feb. 25, 1939.



## THE DOCTOR'S STUDY

*There is a certain wonderful sweetness and delight in knowledge.*—JUVENAL.

### Surgery Christopher

A TEXTBOOK OF SURGERY, By American Authors. Edited by FREDERICK CHRISTOPHER, B.S., M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School; Chief Surgeon, Evanston (Illinois) Hospital. Second Edition; Revised. 1,695 Pages; 1,381 Illustrations. Philadelphia and London: W. B. Saunders Company. 1939. Price, \$10.00.

THIS is the finest collection of surgical monographs ever to be collected in one volume. The day has long since passed when one or two men can write a satisfactory general surgical textbook.

It is difficult to single out certain sections for praise. George Curtis' masterly condensation of the anatomy, physiology, and diseases of the lymphatic system, into 26 well-illustrated and readable pages, is noteworthy. The perplexed student who cannot grasp the significance and basic facts concerning this system and the practitioner who wishes to know how to handle its diseases will learn much from this chapter.

DeTakats presents the worthwhile diagnostic and therapeutic points on varicose veins, and Rankin, much commonsense material on carcinoma of the colon.

The illustrations are numerous, well printed, and of definite instructive value. The student need only glance at the sketches accompanying the section on piriform sinus to be able to remember the location and appearance of the sinus, and its surgical treatment. Mention is made, in this section, of sclerotherapy, a method that enables the patient to remain ambulatory during treatment.

Smith-Peterson's discussion of lower-back pain is complete and practical, including as it does advice on belts, manipulation, adhesive strapping, and the position of hyperextension.

Every field of surgery, including the basic sciences necessary to a good understanding of scientific practice, is well covered.

## Textbook of Medicine

### Conybeare

A TEXTBOOK OF MEDICINE. By Various Authors. Edited by J. J. CONYBEARE, M.C., D.M. (Oxon.), F.R.C.P., Physician to Guy's Hospital, London. Fourth Edition. Baltimore: The Williams and Wilkins Company; A William Wood Book. 1939. Price, \$6.75.

THIS text, in contradistinction to many of its competitors, is light in weight, handy in size, and inexpensive in price. It is clearly and simply written. Throughout its 1,090 pages, it has a maximum of information on all phases of general

medicine, and dermatologic and psychiatric conditions of interest to the general practitioner.

Revision has been thorough. Deficiency conditions affecting the heart: myxedema; peripheral circulatory failure; Benzedrine (amphetamine) Sulfate in the treatment of narcolepsy; lymphogranuloma inguinale; regional enteritis; protamine zinc-insulin; the feeding treatment of hematemesis—all are included.

The use of blood transfusions is not mentioned under the treatment of acute peripheral circulatory failure. The modern viewpoint that "heart failure" rarely occurs in pneumonia, acute peritonitis, severe vomiting or diarrhea, severe burns, severe acidosis (as diabetic), Addison's disease, or pancreatitis, is well stressed; and the opinion that treatment, in such cases, should be fluid administration by the parenteral route, rather than digitalis, is well advised.

This statement might stand revision: "A carcinoma of the colon may be easily visible through the sigmoidoscope. It bleeds readily and will prevent further passage of the instrument."

## Problems of Ageing

### Cowdry

PROBLEMS OF AGEING; Biological and Medical Aspects. Edited by E. V. COWDRY, Washington University, St. Louis; Contributors, EDGAR ALLEN, L. F. BARKER, W. B. CANNON, A. J. CARLSON, A. E. COHN, E. V. COWDRY, MACDONALD CRITCHLEY, W. CROCKER, JOHN DEWEY, LOUIS I. DUBLIN, E. T. ENGLE, J. S. FRIEDENWALD, S. R. GUILD, G. V. HAMILTON, L. O. HOWARD, A. C. IYV, H. S. JENNINGS, E. B. KRUMBHAAR, KARL LANDSTEINER, C. M. MCCAY, WM. DEB. MACNIDER, WALTER R. MILES, JEAN OLIVER, T. WINGATE TODD, FRED D. WEIDMAN, and CLARK WISSLER. A Publication of the Josiah Macy, Jr. Foundation. Baltimore: The Williams and Wilkins Company. 1939. Price, \$10.00.

THE average physician reaches his peak mentally between the ages of 40 and 60, long after his physical peak has been reached at the age of 30. He should be as interested in his physical attributes as in his mental development. Also, he will find that a gradually increasing number of his patients are in the older age groups, as the birth rate continues to fall and older persons live longer.

This is the best book on geriatrics, the specialty of old age, so far published, and because of its wide coverage and saneness of presentation, it bids fair to become the standard reference book.

Thought-provoking sentences are found throughout the volume. "That a human being grows up, matures, and declines is accepted as a truism. Anthropometry shows that this is true of stature, but



not always for other bodily dimensions . . . The span of life is a constant for the human fauna as a whole."

"In the main, this is an old man's world. The adult males of from 40 to 60, and upward, dominate in tribal societies. They have the self-confidence and knowledge needed to maintain the group . . . If society demands that the person of sixty do his part, it should check the validity of traditional assumption as to the proper culture load for such an individual."

The discussion on sexual activities in older persons is good evidence of how little we actually know of potency and desire in the older age groups. There is a definite tendency to revert to enjoyment of eating and defecation, the infantile response.

The physician who would be more than a technician must philosophize, now and again, so that he will treat *human beings*, not "patients." Thus he will attain a perspective beyond the need of the moment and plan the best ultimate goal for his clientele. "Problems of Ageing" should not be read through hurriedly, but bitten off mentally, in small mouthfuls, and digested slowly.

## New International Clinics

Piersol

THE NEW INTERNATIONAL CLINICS: Original Contributions, Clinics, and Evaluated Reviews of Current Advances in the Medical Arts. Edited by GEORGE MORRIS PIERSOL, M.D., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia, with the Collaboration of a Number of Authorities. Philadelphia: J. B. Lippincott Company, 1939. Price, \$5.00.

THIS volume is a valuable one for the general practitioner. The article on chronic brucellosis, by McGinty and Gambrell, is worth the price of the book, as it gives a resume of the diseases which may be simulated, diagnostic steps, and treatment. The manifestations of chronic brucellosis (undulant fever) include nervous, genito-urinary, gastro-intestinal, skeletal, and respiratory symptoms and signs. Practically all physicians have missed, and are missing, this diagnosis.

One of the most embarrassing incidents which confront a physician is to assure a patient and his family that his heart is sound, and then to be notified that the patient has died suddenly. Dr. LaPlace discusses "The Likelihood of Sudden Unexpected Death in Heart Disease." He mentions the various points that may be used in forming a fairly reliable prognosis, and discusses the mechanism of sudden heart failure. Worth remembering is his emphasis on careful diagnosis of patients who have been injured over the precordial area, as slow bleeding from a ruptured vessel may gradually distend the pericardium until sudden heart failure from cardiac tamponade occurs. Surgical intervention in the first few hours would save many of these patients. He recommends, also, that a patient may be revived, during a Stokes-Adams attack, for several minutes after ventricular standstill has occurred, either by the intracardiac injection of Adrenalin (epinephrin), or by striking the precordium smartly with the ulnar surface of the fist.

"The Management of a Patient Suffering from a Duodenal Ulcer"; "Problems in Diabetes Mellitus"; "Diet and Insulin in the Treatment of Diabetes"; "Mixed Vaccinations"; and other practical articles fill the pages. Cantarow's simple, rational explanation of water balance and the treatment of its abnormalities is especially recommended.

## Sleep

Chideckel

SLEEP. YOUR LIFE'S ONE-THIRD. By MAURICE CHIDECKEL, M.D., with a Foreword by ROBERT V. SELIGER, M.D., Visiting Psychiatrist, Johns Hopkins Hospital, New York: The Saracen House, 1939. Price, \$2.00.

THIS book may be recommended for those patients who complain of not being able to sleep, or who take sedatives. Written in understandable language, it outlines the causes of insomnia, its effects, and treatment. Women will be impressed

by the emphasis placed on the relationship between sleep and beauty.

Many common-sense points are given which the patient can readily put into practice and thus insure good sleep. Theories of sleep and sleep disturbances resulting from sexual disorders, prostatic hypertrophy or infection, somnambulism, and other causes, are recounted interestingly.

It is unfortunate that an occasional error was not detected, such as; "Infection of the (prostate) gland may occur at any age, in those who have once suffered from gonorrhea." Non-specific prostatitis, the most common form of prostatic infection, is often non-venereal, but the patient who reads this book will not be informed of that.

## Psychopathology

Dicks

CLINICAL STUDIES IN PSYCHOPATHOLOGY; A Contribution to the Etiology of Neurotic Illness. By HENRY V. DICKS, M.A., M.D. (Cantab.), M.R.C.P. (Lond.), Assistant Medical Director, The Tavistock Clinic, London; Sometime Foundation Scholar of St. John's College, Cambridge. Baltimore: William Wood and Company, Medical Division, The Williams and Wilkins Company, 1939. Price, \$4.75.

ONE of the beauties, as well as one of the distractions of medicine, is that whole systems of thought may be erected and countless volumes may be written on the basis of a controversial hypothesis. Freud's method is a case in point. It has been contested, defended, modernized, altered and "interpreted" until, to most students, it has become a hopeless jumble.

Dick's viewpoints are modeled on the beliefs of Freud, Adler, Jung, and Hadfield. Because of economic pressure in practice, a free play of associations could not be permitted, but rather the physician directed the process of association when it began to drift away. "The stimulus chosen most frequently is his most important symptom."

"The analyst does not in any way suggest content, but merely directs the flow of associations towards the point at which content is emerging. Very little interpretation is required and, for the analyst's speculation and intuition, is substituted, as far as possible, the patient's own realization."

The discussion of anxiety states is especially good. "A consciously experienced state of fear, rage, or sexual excitement, if not acted upon appropriately, may, as it dies away, give place to a feeling of temporary exhaustion, possibly due to the fall in adrenalin concentration after prolonged stimulation. An emotion of that kind, not even allowed access into consciousness by a resistance, or censor, is not thus solved by conscious choice of the conflicting sides but such a conflict is never solved. All that can be manifest is the bodily repercussion of the frustrated feeling, in the form of anxiety or exhaustion."

Phobias, obsessions, hysteria, the play of opposites, some perversions of sexual aim, abnormalities in sexual function, and drug addictions are discussed and illustrated with short histories of typical patients.

For adherents of the materialistic religion known as Freudian psychoanalysis, this book may well prove interesting, but probably to few others.

## Clinical Biochemistry

Cantarow and Trumper

CLINICAL BIOCHEMISTRY. By ABRAHAM CANTAROW, M.D., Associate Professor of Medicine, Jefferson Medical College; Biochemist Jefferson Hospital, and MAX TRUMPER, Ph.D., Clinical Chemist and Toxicologist: Formerly in Charge of the Laboratories of the Jefferson Medical College and Hospital. With a Foreword by HOBART A. REIMANN, M.D., Professor of Medicine, Jefferson Medical College. Second Edition, Revised. Philadelphia and London: W. B. Saunders Company, 1939. Price, \$6.00.

THIS book is not made up of lists of tests and one-line interpretations of their meanings. A laboratory finding is not diagnostic in itself and does not relieve the physician of making a diagnosis. It should make up only one part of the clinical picture. Cantarow and Trumper have succeeded in describing

the physiology and biochemistry of abnormal function, knowledge of which is essential if modern diagnosis is to be mastered. Granted that it will take a little longer to read this book than if a few dogmatic facts were presented, the physician who studies it learns the limitations of biochemistry, as well as its possibilities.

"Haldane has stated that the aim of physiology is to consider how the internal environment of the body is kept constant, in spite of continual alterations in the external environment. The aim of this treatise is to consider how the internal environment of the body is altered by certain specific changes in tissue and organ physiology. It is further intended to indicate the manner in which the physician may best avail himself of the information which can be obtained by biochemical studies."

The physician who feels that he has not kept up on the latest advances in our knowledge of body processes and their functional diagnosis, may take a postgraduate course in both subjects at his leisure, with this book. He will then be a better physician and will be able to serve his patients better.

To integrate the subject matter and to prevent repetition, it is grouped under large headings: Carbohydrate metabolism, protein metabolism, lipid metabolism, chloride metabolism, calcium metabolism, etc.; acid-base balance, respiratory exchange and basal metabolism; vitamins, diabetes, renal function, nephrosis, hepatic function, gastric function, pancreatic function; biochemical changes in pregnancy and lactation, cerebrospinal fluid, water balance, miscellaneous urinary findings; and (for quick reference by the clinician) an outline of chemical diagnostic features of various diseases.

## Surgical Handicraft

Bailey

PYE'S SURGICAL HANDICRAFT, A Manual of Surgical Manipulations, Minor Surgery, and Other Matters Connected with the Work of House Surgeons and of Surgical Dressers. Edited by HAMILTON BAILEY, F.R.C.S. (ENG.), Surgeon, Royal Northern Hospital, London; Surgeon and Urologist, Essex County Hospital; External Examiner in Surgery, University of Bristol. Eleventh Edition; 362 Illustrations. Baltimore: The Williams and Wilkins Company. A William Wood Book. 1939. Price, \$6.00.

THIS modest work is well illustrated but does not seem especially prepossessing at first sight. Much of the material would seem to be fairly well known among well trained surgeons.

It is only when one begins a critical analysis of each section that a definite impression is received of well organized, well written, and very practical material. Many of the points in technique are those that we have read in the literature but do not have at hand for ready reference, when they are needed. In this category come the suggestions on the adhesive tape corset for infected wounds, as a prophylactic measure against wound disruption; tonsillectomy for hemorrhage after incision of a peritonsillar abscess; and reduction of epiphyseal dislocation at the lower end of the femur by band traction.

The revision for the eleventh edition has been thorough. The injection treatment of varicocele is well covered, as is the injection treatment of hydrocele, which emphasizes the fixation of the needle with a forceps.

Those physicians and surgeons who have Bailey's classic "Emergency Surgery" and "Physical Signs in Clinical Surgery" will need no more recommendation than that he has edited this volume.

## New Books Received

The following books have been received in this office and will be reviewed in our pages as rapidly as possible.

DIAGNOSIS AND MANAGEMENT OF THE BILIARY TRACT. By R. FRANKLIN CARTER, B.S., M.D., F.A.C.S., CARL H. GREENE, A.B., Ph.D., M.D., F.A.C.P. and JOHN RUSSELL TWISS, A.B., M.D., F.A.C.P. Philadelphia: Lea and Febiger. 1939. Price, \$6.50.

BEESEY AND JOHNSTON'S MANUAL OF SURGICAL ANATOMY. Revised by JOHN BRUCE, M.B., F.R.C.S. (Edin.) and ROBERT WALMSLEY, M.D. 5th Edition. New York: Oxford University Press. 1939. Price, \$6.50.

CARDIOVASCULAR DISEASES. Their Diagnosis and Treatment. By DAVID SCHERR, M.D. and LINN J. BOYD, M.D., F.A.C.P. St. Louis: The C. V. Mosby Company. 1939. Price, \$6.25.

THE TISSUES OF THE BODY. An Introduction to the Study of Anatomy. By W. E. LE GROS CLARK, F.R.S. New York: Oxford University Press. 1939. Price, \$5.50.

PERIPHERAL VASCULAR DISEASES. Diagnosis and Treatment. By WILLIAM S. COLLENS, B.S., M.D. and NATHAN D. WILENSKY, M.D. Springfield: Charles C. Thomas. 1939. Price, \$4.50.

FUNCTIONAL DISORDERS OF THE FOOT. Their Diagnosis and Treatment. By FRANK D. DICKSON, M.D., F.A.C.S. and REX L. DIVELEY, A.B., M.D., F.A.C.S. Philadelphia: J. B. Lippincott Company. 1939. Price, \$5.00.

URINE EXAMINATION AND CLINICAL INTERPRETATION. By C. E. DUKES, M.Sc. (London), M.D. (Edin.), D.P.H. (London). New York: Oxford University Press. 1939. Price, \$8.00.

HEADACHE AND HEAD PAINS. A Ready Reference Manual for Physicians. By WALTON FOREST DUTTON, M.D. Philadelphia: F. A. Davis Company. 1939. Price, \$4.50.

OPERATIVE ORTHOPEDICS. By WILLIS C. CAMPBELL, M.D. St. Louis: The C. V. Mosby Company. 1939. Price, \$12.50.

PULMONARY TUBERCULOSIS. Pathology, Diagnosis, Management and Prevention. By GEORGE GREGORY KAYNE, M.D., M.R.C.P., D.P.H., WALTER PAGEL, M.D. and LAURENCE O'SHAUGHNESSY, M.D., F.R.C.S. New York: Oxford University Press. 1939. Price, \$13.00.

THE SURGERY OF PAIN. By RENE LERICHE, M.D., LYON, LL.D. GLASGOW, F.R.C.S. ENG. (HON. CAUSA), Etc. Translated and Edited by ARCHIBALD YOUNG, B.Sc., M.B., C.M., F.R.F.P.S.G., F.A.C.S. (HON.), M.D. STRASBOURG (HON. CAUSA), Etc. Baltimore: The Williams & Wilkins Company. 1939. Price, \$6.50.

THE HEART-SOUNDS IN NORMAL AND PATHOLOGICAL CONDITIONS. By OSCAR ORIAS, M.D. and EDUARDO BRAUN-MENENDEZ, M.D. New York: Oxford University Press. 1939. Price, \$4.75.

POST-MORTEM APPEARANCES. By JOAN M. ROSS, M.D., B.S. (LOND.), M.R.C.S., L.R.C.P. 4th Edition. New York: Oxford University Press. 1939. Price, \$2.50.

PROCTOLOGY FOR THE GENERAL PRACTITIONER. By FREDERICK C. SMITH, M.D., M.Sc. (MED.), F.A.P.S. Philadelphia: F. A. Davis Company. 1939. Price, \$4.50.

SURGERY OF THE EYE. By MEYER WIENER, M.D. and BENNETT Y. ALVIS, M.D. Philadelphia: W. B. Saunders Company. 1939. Price, \$8.50.

PNEUMONIA. With Special Reference to Pneumococcus Lobar Pneumonia. By RODERICK HEFFRON, M.D. New York: The Commonwealth Fund. 1939. Price, \$4.50.

LOOK AND LISTEN. The Television Handbook. By M. B. SLEEPER. New York: The Norman W. Henley Publishing Company. 1939. Price, \$1.00, Spiral Binding; \$1.50, Cloth Binding.

# —Medical News—



## The "Aluminum Lung"

THE "ALUMINUM LUNG," recently announced by the Weisner-Rapp Co., and pictured above, is much lighter in weight than any similar device now used for artificial respiration. It weighs only 460 pounds and takes less space than an ordinary hospital bed. Mounted on swivel ball-bearing wheels, it can be easily and quickly moved and may be transported in a regular hospital ambulance.

The "Aluminum Lung" is equipped with two arm-ports on either side, a large observation window in the top, an auxiliary door, and a special bed-pan compartment. The bed, equipped with specially designed sponge-rubber mattress, slides in and out on rollers. It is also equipped with an emergency crank for hand-operation, when it must be used where electricity is not available.



## International Medical Assembly

THE International Assembly of the Interstate Postgraduate Medical Association will be held at the Palmer House, Chicago, Ill., October 30 and 31 and November 1 to 3, inclusive.

These Assemblies are the most practical and inexpensive opportunities for obtaining real graduate instruction which are available to the physicians of this country, combined with the stimulus of meeting active clinicians from all over the world and of studying a large commercial and scientific exhibit, and all who can possibly do so should take advantage of them. Practically all of the speakers are members of the faculties of medical schools.

The central location chosen for this year's Assembly should result in a record attendance, so the wise ones will make their hotel reservations for those five days *now*, and plan their "homework" accordingly. Moreover, their wives and families

will find much to interest them in the metropolis of the Midlands.

Complete details regarding this important meeting can be obtained by writing to Dr. W. B. Peck, Freeport, Ill.



## Passing of Dr. Wm. J. Mayo

DR. WILLIAM JAMES MAYO, the elder of the two famous brothers and surgeons, passed to his long rest July 28, 1939, following a serious abdominal operation several weeks previously, at the age of 78 years. He survived his younger brother, Charles, by two months and two days. A biographic sketch and portrait of "Dr. Will" will appear in an early issue of this Journal.



The products we advertise are worthy of your attention. Look them over.



## Mississippi Valley Medical Society

THE meetings of the Mississippi Valley Medical Society are of the same general type as those of the I. P. M. A., only on a smaller scale, and this year's meeting should be the best ever, as Burlington, Iowa, has an auditorium which offers real facilities. The dates are September 27, 28, and 29. All active clinicians in Illinois, Iowa, and Missouri should be members of this vital and "coming" organization. Write to Dr. Harold Swanberg, 510 Maine St., Quincy, Ill., for further information and a program.



## Industrial Medicine

THE Department of Industrial Medicine of Northwestern University Medical School is conducting its Third Annual Symposium on Industrial Disease and Hygiene on September 25 and 26, 1939, at Thorne Hall on the Chicago Campus. The subjects are to be treated by well informed, nationally known speakers. Registration will be limited to physicians, industrialists, safety engineers, hygienists, personnel and industrial relations managers, and others actively interested in industrial disease. The registration fee for the scientific program is \$5.00. A charge of \$3.50 will be made for the Banquet session.

For further information and a program, write to the School at 303 E. Chicago Ave., Chicago, Ill.



Enclosed find check for two dollars for book, "Parenteral Therapy." If it is as good as CLINICAL MEDICINE AND SURGERY, I know I will find it of great value and a real stimulus.—C. O. M., M.D., Iowa.



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- 123 Resumé of Venereal Therapy. Mallinckrodt Chemical Works.
- 130 Allantoin Ointment 2% in Slow and Non-healing Wounds and in Burns. The National Drug Co.
- 135 Argylol in Otorhinolaryngology. A. C. Barnes Co.
- 137 Barium Sulfate. Resumé of Use in Alimentary Roentgenology. Mallinckrodt Chemical Works.
- 146 Moru-Quin for Injection Treatment of Varicose Veins. The National Drug Co.
- 148 Ampoule Products for Subcutaneous, Intramuscular, and Intravenous Medication. Associated Physicians Labs.
- 149 Metanic Jelly. Abbott Labs.
- 151 Cofron Liver Concentrate. Abbott Labs.
- 154 Cyclopropane for Anesthesia. Mallinckrodt Chemical Works.
- 155 Alkali or Calcium, Which Shall It Be? Wm. R. Warner & Co., Inc.
- 157 Galatest—A New Micro-Reagent for Instantaneous Detection of Urine Sugar. The Denver Chem. Mfg. Co.
- 159 Zemacide, an Efficient and Dependable Local Application for Eczema. The Tilden Co.
- 161 Pregnacol, an Intradermal Test for the Determination of Pregnancy from the Second Week to the Fifth Month. Ernst Bischoff Co.
- 165 Tebigen—A New Homologous Antigen for the Diagnosis of Tuberculosis. Ernst Bischoff Co.
- 166 The Dowling Treatment. Thirty Years of Observation and Results. A. C. Barnes Co.
- 168 Low Back Pain, Sarapin, and Neuralgias. High Chemical Co.
- 171 The Problem of Cardiovascular Sedation. Grant Chemical Co., Inc.
- 172 Summer Constipation. Wm. R. Warner & Co., Inc.
- 173 APestrin in Utero-ovarian Insufficiencies. The Harrower Lab., Inc.
- 174 Peptic Ulcer Dietary. Knox Gelatine Labs.
- 175 Modern Estrogenic Hormone Therapy. Reed & Carnrick.
- 176 Cortinal. A Standardized Lipid Extract of Adrenal Cortex for Oral Use. The Harrower Lab., Inc.

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